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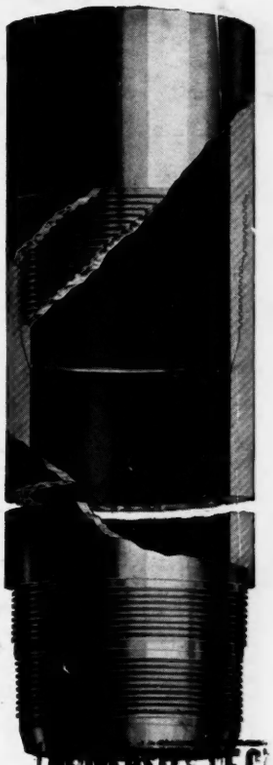

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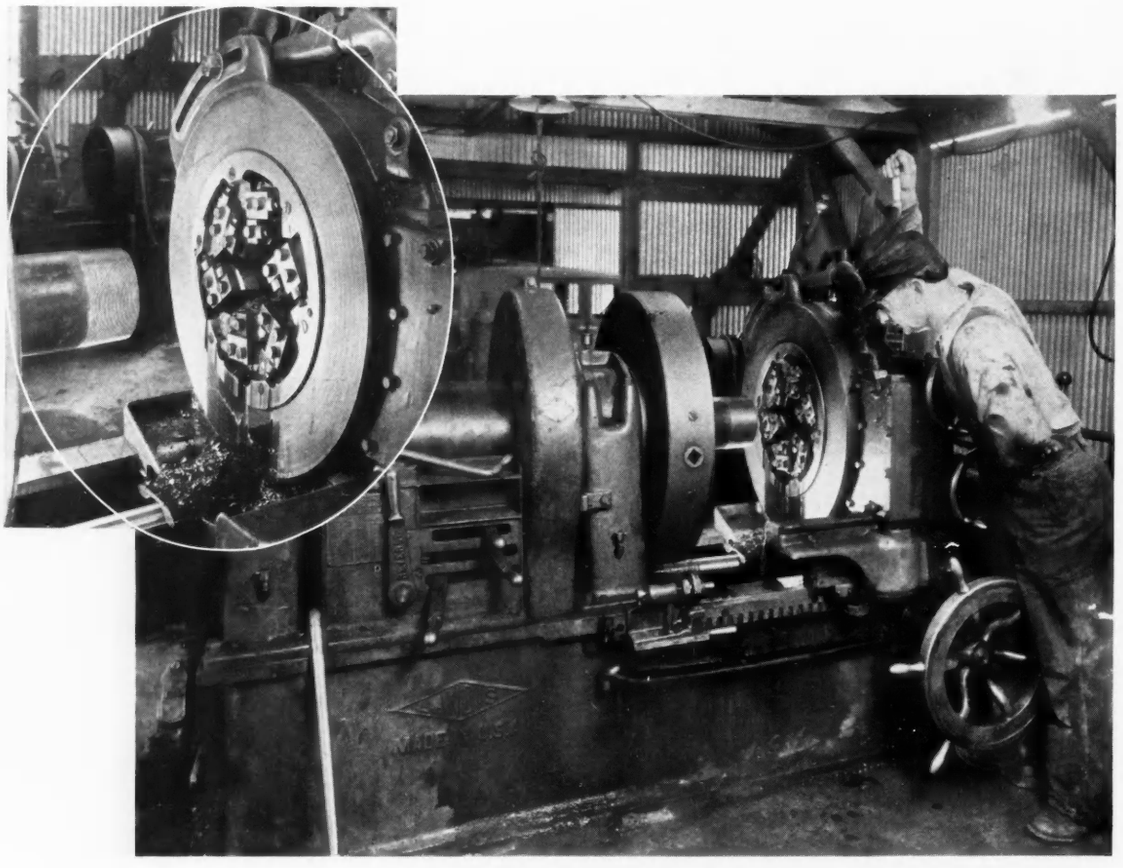

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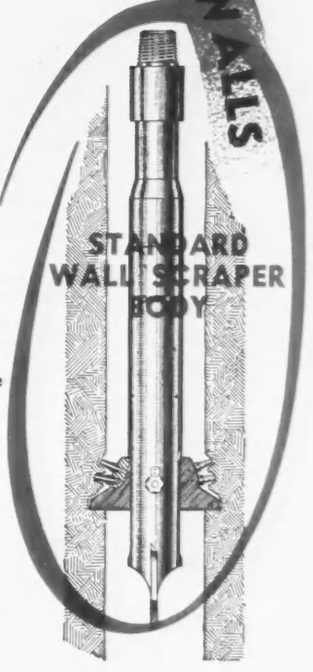

Unretouched photo of cores taken with Wall Sampler.

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THE OIL WEEKLY

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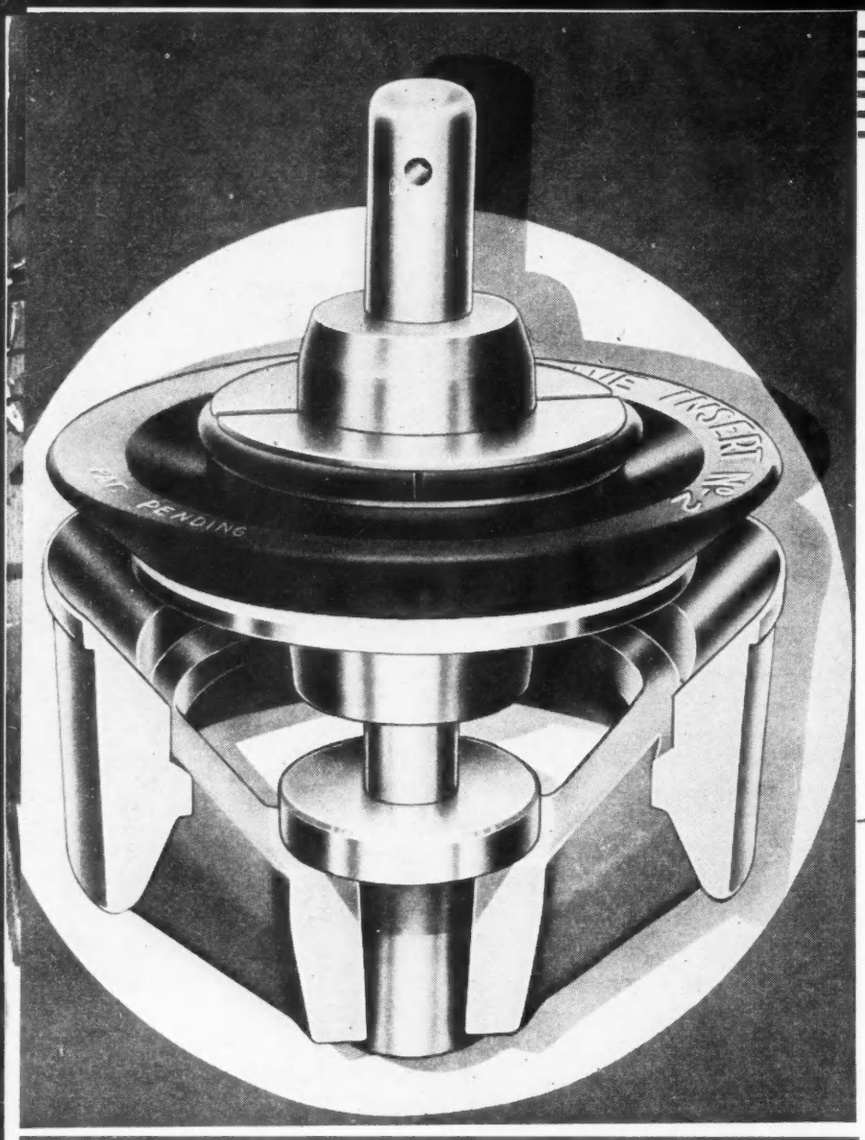

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor.

. . . this Week

THE industry closed the first half of the year 1936 with a creditable record and with prospects for a favorable showing during the last half. In general, oil companies had higher earnings than during the corresponding period of 1935. Prevailing conditions are promising, so the outlook for the remainder of the year is also favorable. **Page 10.**

THE next Texas statewide hearing has been scheduled for July 16. This meeting is of considerable importance, as the first subject to be considered will be rules governing operations in the Rodessa field. Louisiana officials have been invited to attend this hearing, but it is not yet known if they will accept. This hearing has been postponed for a month or more for first one reason then another. **Page 9.**

THE 55,000 barrels of Rodessa crude produced on Pelican Oil & Gasoline Company's Sexton lease that was impounded by a federal court judge as it was moving through East Texas Refining Company's pipe line has been given the right to be transported regardless of the fact that the Texas Railroad Commission has never approved a tender for it. An injunction allowing the movement has been issued. **Page 9.**

FREQUENTLY it is a tedious and irksome task to determine the amount of acreage of a tract of land by calculation. Whenever the tract is of a square or rectangular shape, this task can be made easy by the use of a nomogram that has been developed. A few other pertinent calculations may also be made from the nomogram. **Page 36.**

IT is well known by engineers that the conservation of gas energy during the entire flowing life of a well will prove beneficial in prolonging the natural flow of the well and in increasing the ultimate production recovery. Gas wastage may be minimized and wasteful producing practices corrected if a more thorough study of all producing conditions in each new field is made. This study should be followed by the adoption of a properly engineered cooperative program among operators that is based on the facts found during the study. **Page 30.**

PRACTICALLY exhausted sands in the Wietze-Steinfoerde field of Germany have been revived. Two tunnels running parallel to the length of the field, outside of and below the oil sands have been dug and lined with concrete. From these two main tunnels a number of crosscuts were driven underneath the oil sands, then drill holes were bored upwards to tap the oil reservoir. At the end of each crosscut a large sump gathers the oil coming from above. The yield and cost have both been satisfactory to the operators. **Page 19.**

TODAY oil and its by-products are known as the great lubricating and motive power, but back in the years around 1850 merchants of petroleum made great claims for it as a cure-all medicine. Recently a pamphlet found by Percy C. Jones among some old family papers claims it will cure blindness, rheumatism, cholera morbus, dysentery, piles, scrofula and a number of other diseases. "The healthful balm from Nature's secret spring 400 feet below the Earth's surface" was put up and sold by Samuel M. Kier. **Page 50.**

The Oil Man's Calendar

JULY 31	Interstate Oil Compact Commission, Dallas, Texas.
AUG. 11–16	Michigan Oil and Gas Exposition, Mt. Pleasant, Michigan.
SEPT. 7–12	World Power (Fuel) Conference, Washington, D. C.
16–18	National Petroleum Association, Atlantic City, New Jersey.
	American Petroleum Institute, Division of Production, Mid-Continent District, Probably at Oklahoma City.
OCT. 5– 9	National Safety Congress Petroleum Section, Atlantic City, New Jersey.
	American Institute of Mining and Metallurgical Engineers Cleveland, Ohio.
NOV. 9–12	American Petroleum Institute, 17th Annual Meeting, Chicago, Illinois.
NOV. 30– DEC. 1	Independent Petroleum Association of America, Biltmore Hotel, Oklahoma City, Oklahoma.

IN constructing gas gathering and fuel distribution systems operated in conjunction with natural gasoline plants, it is necessary to consider the estimated amount of gas to be handled, the distance the gas is to be transported, and the differential between the field pressure and intake pressure at the plant. With the basic factors known, work may then proceed in building the proper type of transmission system. The latter includes rights-of-way, diameter of lines, kind of pipe to be used, drips and residue return lines. With all these factors considered carefully, a pipe line system that will serve the plant satisfactorily may be expected. **Page 24.**

FOR some time a drilling contracting firm has been using a light portable type of rotary drilling rig that has the unusual distinction of being completely and permanently mounted on the chassis of a heavy-duty truck. In this manner, the truck is used both as the transportation and rig foundation unit. After two years of service, the first of these rigs is still operating successfully and profitably. **Page 38.**

SPUDDING machines are used in the oil fields to perform a great variety of operations, and with proper care give satisfactory service. After the proper selection of size for the type of work the machine is to do, the right kind of care will enable experienced drillers to obtain many years of satisfactory and economical operation. **Page 40.**

Launch Drive

TO FORCE EACH EAST TEXAS WELL TO MAKE OWN OUTPUT

TYLER.

INSTALLATION of pumping equipment in the East Texas field is due for a sharp gain as result of the Federal Tender Board having launched a drive against operators that exceed production allowables for given wells to compensate for inactive producers. Warrants for the arrest of 14 operators and their employes were filed in Federal Court here June 29 for alleged conspiracy to make false affidavits on monthly pipe line reports to the Federal Tender Board, and reports indicate that more charges are to follow as a sequel to a widespread investigation waged in recent months by agents of the board.

Conspiracy charges were filed upon Wallace and Roy Jenkins, Dallas, officials of Jenkins Oil Corporation and Control Gathering System, Inc., and two employes, Hamilton Jenkins and D. D. Braly. The initial drive also included: Ralph D. Holman, Guy Johnson, A. B. Gillis, E. E. Griffin, W. E. Shackelford, J. C. Jack, Howard Johnson, Hugh Montgomery, C. C. Dennis and Harry Johnson. Bonds amounting to $5000 were demanded of each defendant.

Announcement was made by Wallace Jenkins that charges involving wells operated by Jenkins Oil Corporation would be contested. He stated that the accumulated production is short 12,000 to 15,000 barrels of the earned allowable, and that all wells not capable of flowing natural are adequately equipped with individual pumping units or connected to central power units.

Texas Railroad Commission's rules require that each well in the field must produce its allowable each day, otherwise the lost time production must be deducted. An average of about 75 wells in the entire field are reported daily to the commission as being inactive.

Jenkins pronounced the Federal Tender Board's charges of being of a technical nature, and if carried to the courts he forecasts a direct attack on the constitutionality of the Connally hot oil measure. He pointed out that leases equipped with central power, or standard rig fronts with back-side hookups for pumping more than one well simultaneously into a single lease tank makes it possible for a portion of the wells to exceed their allowable through better mechanical performance.

Reports indicate that many wells in the East Texas field are dormant through exhaustion of the flowing pressure, else due to mechanical or paraffin accumulation in the tubing. The Commission has been lenient on operators that withdraw allowables from more favorably situated wells, and also with those that utilize a swabbing truck monthly, or semi-monthly to produce the allowable for the period.

The drive by the federal authorities to force each well to yield its daily quota as prescribed by state regulations makes former widespread practices somewhat hazardous for property owners. Large operators are reported to have been somewhat negligent in reporting and deducting for dead wells on routine reports since very little attention has heretofore been given by enforcement officers to violations.

RIG STRIKE

Work in West Texas declines due to lay-off

MIDLAND, TEXAS.

APPROXIMATELY 750 oil field workmen and employees of allied branches of the oil industry have been forced to take an involuntary lay-off because of the continued strike of rig builders in southeastern New Mexico and the Permian Basin section of West Texas. No derricks have been erected in Lea County since members of the United Rig Builders Union launched their strike for a $2 hike in their daily wage scale on June 10, and the labor difficulties rapidly spread throughout the basin area. Non-union rig builders deserted their jobs for fear of personal injury.

Non-participants forced into idleness by the wholesale stacking of rigs as wells are completed became hostile the past week and threatened violence to strike leaders. Reports indicate that several strike leaders in New Mexico remained secluded in hotel rooms two days and then were given police escort from the area for fear the indignant group of workmen would resort to violence. Absence of these leaders is expected to result in the strike being terminated shortly, as members of the union were not fully in accord with the demand for the advance of rig builders daily wage scale to $14, and that of foremen to $16, if necessary to stage a walkout.

Serious shortage of experienced labor for drilling crews now threatens the strike belt when the labor dispute is settled, as scores of workmen have been forced to leave and find work elsewhere in order to provide for their families. In addition to the wage hike strikers are demanding full pay for time spent in going to and from a job, also restrictions on the use of apprentice workmen.

Reports indicate that the strike was poorly timed, as companies and operators were eager to have a holiday on matching offset wells of neighbors and are making no effort to induce rig building contractors to yield to the demands of the strikers. Contractors state that their margin of profit will not absorb the extra labor costs. While drilling contractors, who generally include the cost of erecting derrick in well bids, recently advanced the pay of drilling crews about $1 per day without obtaining a boost in their footage price.

VAN FLEET RESIGNS

Leaves tender board with only three members

WASHINGTON, D. C.

CONDITIONS in East Texas "are better than they ever have been," it was declared July 1 by Secretary of the Interior Harold L. Ickes in announcing that there was so little work for the Federal Tender Board that George W. Van Fleet had been relieved of duty, effective June 30. By reducing the size of the board, it was said, the government will save money, and there is so little work for the organization that the remaining three members can handle the situation without difficulty.

GASOLINE TAX UP

Total collections rose $57,000,000 last year

NEW YORK.

STATE and federal gasoline taxes reached an all time high of $789,114,152 last year, according to official figures obtained by the American Petroleum Industries Committee. This is approximately $54,000,000 more than was collected during the previous year.

Of the total, $616,851,671 was paid in state gasoline taxes, while the balance of $172,262,481 went into the federal treasury as a result of the 1 cent per gallon gasoline tax.

Refunds, representing exemption from taxation for gasoline used other than in propelling motor vehicles on highways, amounted to $31,000,637, an increase of approximately $4,000,000 over the previous year's exemptions.

A large part of the increase in gasoline tax receipts was due to an increase in consumption, the taxable gallonage of 16,264,961,000 being about a billion gallons higher than that of 1934.

New York state again collected the largest amount in gasoline taxes, closely followed by Pennsylvania, California, and Ohio. Net collections in New York state amounted to $56,251,704; Pennsylvania collected $40,706,631; California, $39,971,405; and Ohio, $39,168,786.

No figures are available covering the cost of collecting either federal or state gasoline taxes, but most of the collection costs are borne by the industry.

TEXAS GAS ORDER

AUSTIN.

THE Texas Railroad Commission has issued its July proration order covering the production of gas.

The new allowables are as follows: for the East Panhandle, 113,564,000 cubic feet; for the West Panhandle, 514,048,000 cubic feet; sour gas for the Panhandle, 540,000,000 cubic feet; sweet gas allowance outside the Panhandle, 290,232,000 cubic feet; sour gas allowance outside the Panhandle, 20,598,000 cubic feet.

Same Allowable

CALIFORNIA JULY OUTPUT IS TO BE AT JUNE LEVEL

LOS ANGELES.

ELECTION of officers and reorganization of the Central Committee of California Oil Operators for the fiscal year beginning July 1, 1936, together with approval of the recommended 544,000 barrels daily July crude quota, featured the meeting Tuesday of the Central Committee.

Reelect Officers

Lawrence Vander Leck, Fullerton Oil Company, was reelected chairman. A. C. Rubel, in placing the former's name in nomination, commended him for the splendid work he had accomplished toward more effective curtailment which, he said, has been more widely and fairly distributed during the last six months than at any previous time since voluntary curtailment was attempted.

Other committee officers chosen included:

Members-at-large—San Joaquin Valley, Angus J. Crites; Coastal Counties, R. D. Montgomery; Los Angeles Basin, Neal H. Anderson. Alternate for the latter district, William Hobro; others to be selected later.

First Vice Chairman, Laurence C. Kelly; Second Vice Chairman, H. F. Owen; Secretary, Miss Bettye Bohanon; Parliamentarian, Laurence C. Kelly.

Dana Hogan, chairman of the Allocation Committee, in behalf of himself and members, asked to be relieved of their duties, and after accepting the resignation the chair appointed L. L. Aubert, Bankline Oil Company, chairman of the new Allocation Committee, members of which will be announced later.

In its recommendation that the July crude quota remain unchanged at 544,000 barrels, although the Bureau of Mines had recommended a daily total for California of 550,800 barrels, Hogan stressed the fact that crude output had materially exceeded the allowables, and that while withdrawals from storage during June probably would offset stocks added to storage during May, the improvement did not justify a higher quota for July despite the anticipated increase in demand for refined products.

The allocation procedure for July will remain the same as in effect in June with necessary adjustments to take care of inequities.

BIGGER ALLOWABLE

Louisiana fails to heed Bureau recommendation

NEW ORLEANS.

DURING July Louisiana may produce 224,900 barrels crude production daily, according to the latest proration order of the state conservation department. This is 7925 barrels a day more than the state allowable of 216,975 barrels daily for June. It is 38,100 barrels a day more than the Bureau of Mines recommendation of 186,800 barrels of Louisiana production in July.

The state allowable for July includes 149,990 barrels daily for South Louisiana and 75,000 barrels daily for North Louisiana. Rodessa's allowable was raised to 55,000 barrels daily from 50,750 barrels a day in June. In that field the per well allowable was left unchanged at 275 barrels daily, but new wells have increased the total number in the field during the past month.

TEXAS HEARING

Rodessa first subject at next statewide meet

AUSTIN.

THE Texas Railroad Commission has scheduled for July 16 at Austin the statewide proration hearing which is held each month.

Commission Chairman Ernest O. Thompson announced that the first subject to be considered would be rules governing operations in the Rodessa field of Cass County. He said that Louisiana officials have been invited to attend this hearing, but that they had not yet replied to the invitation.

There has been agitation among operators in Rodessa since last December urging the commission to hold a hearing and fix rules for the field. The hearing has been postponed for one reason or another, and efforts have been made to have joint hearing with conservation officials from Louisiana with the end in view of uniform rules for the field on both sides of the state line.

The Texas Railroad Commission has followed the lead of Louisiana Commission in reducing allowables so that the wells on both sides of the line have been permitted to produce equally.

Because of the large volumes of water handled in some parts of the field it is possible that Texas producers will urge more restricted production in an effort to control the water drive in the field.

CAN MOVE OIL

Impounded Rodessa crude may be shipped

AUSTIN.

JUDGE W. F. Robertson in 126th District Court has issued an injunction that will allow the movement of 55,000 barrels of Rodessa crude regardless of the fact that the Texas Railroad Commission has never approved a tender for its movement.

This is the same oil belonging to East Texas Refining Company which was produced from Pelican Oil & Gasoline Company's wells in Louisiana under a special order from the Louisiana Conservation officials, and which was impounded by Federal Judge Randolph Bryant. East Texas Refining Company applied to the Railroad Commission for a tender, and the commission had not acted at the end of 20 days, the period which the statute allows.

Attorneys for the refining company then filed suit in the District Court at Austin. At the hearing on this suit Judge Robertson refused to admit the decree entered by Judge Bryant and ruled that the Railroad Commission had no control over the oil.

Attorneys for the state have indicated that it was unlikely they would appeal from the trial court decision.

REFINERS MERGE

Two petroleum refining associations consolidate

TULSA.

CONSOLIDATION of the Western Petroleum Refiners Association and the Louisiana-Arkansas Refiners Association into one organization and the addition of new members in East and North Texas, has been announced by A. V. Bourque, secretary-treasurer, and L. C. Grosjean, secretary of the Louisiana-Arkansas Association. The consolidation became effective July 1.

Same Officers

The Louisiana-Arkansas group will maintain its identity and will function as the Ark-La-Tex Division of the Western Petroleum Refiners Association. Grosjean, who has been secretary of the Louisiana-Arkansas Association since it was organized eight years ago, will continue as secretary of the divisional office in Shreveport.

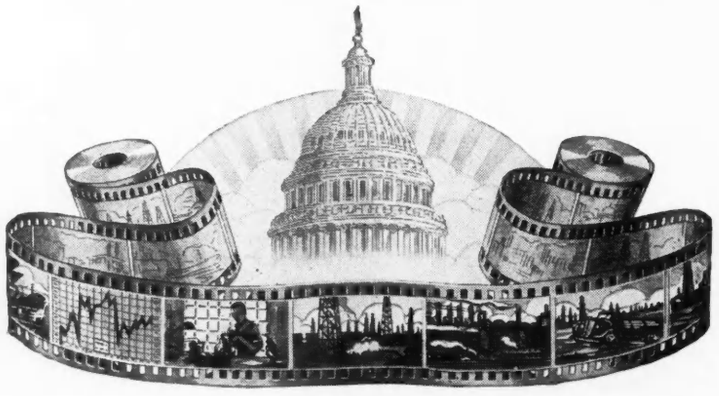
The activities of the consolidated organization will be directed and administered by the W.P.R.A. whose headquarters is in Tulsa. Bourque will continue as secretary and treasurer.

Including the 15 companies which will be added through the consolidation, the membership of Western Petroleum Refiners Association will total 70 refiners located in the Mid-West, Southwest and Southeast. About 60 members are independent, non-integrated refiners. It is the only association between Ohio and California whose membership is limited exclusively to refiners. At the end of the present fiscal year the association will celebrate its twenty-fifth anniversary.

The consolidation will result in a unified plan of operation and will eliminate duplication of efforts by the two organizations whose activities have been along parallel lines. Arkansas and Louisiana refiners who have been members of both organizations will benefit by a reduction in administrative expenses. Texas refiners, who have not been members of either group, will gain the service and prestige of an older organization at a minimum expense.

"The proposal for the consolidation," Bourque said, "came from the Louisiana-Arkansas group. Our board of directors approved the suggestion after investigation by a committee composed of H. T. Ashton and myself. Both organizations, our investigation indicated, will benefit in service and in finances, from the unified operation. The development programs of both groups will be coordinated and expanded."

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by L. J. LOGAN, Associate Editor

WHEN the oil industry entered last week upon the second half of 1936, it had behind it a quite creditable half-year's record and fair prospects for a favorable showing in the latter half of the year.

Oil Company Earnings Favorable

In general, oil companies had substantially higher earnings in the first half of 1936 than in the similar period of 1935. In most cases, profits were the highest since 1930 or 1929. For some companies the results were the best on record.

For the third quarter of the year it is quite likely that earnings will continue favorable, since prices are holding firmly at comparatively good levels, since demand is heavy, and since there are fair prospects that effective balancing of supply and demand will be maintained during the remainder of the summer. The prospects for the final quarter of the year still are conjectural, but at present there are no indications of any serious impairment of the situation in that period.

Present indications make it appear quite possible, therefore, that 1936 will push the oil industry's earning power another important step upward toward the boom period peaks of 1930 and 1929.

Demand and Prices Higher

The industry's favorable earnings this year have resulted primarily from the large consumption of oils and the effective balancing of supply with the demand. The heavy demand has meant a large volume of business, and the favorable relation between supply and demand has meant satisfactory prices. The oil companies have been doing much business at favorable prices, and consequently have profited.

The demand for United States oils, for domestic and export purposes, is running this year at all-time record proportions. In fact, the total demand in 1935 represented an all-time peak, having been slightly higher than in 1929, the previous peak year. In the first four months of 1936, the Bureau of Mines reported, the total demand for all oils was 11.4 percent higher than in that period of 1935. A similar percentage of improvement over last year has been maintained up to the present time. The increased demand has resulted from gains for gasoline, fuel oil, and most of the other products.

Prices have been better in the elapsed portion of 1936 than in the similar period of 1935, for both crude and refined oils. Crude prices have been better by the amounts of the price increases of the past January. Refinery prices have been this year in substantially higher ground. Retail prices also have improved some, as compared with a year ago.

Prospects Bright Through July

While prevailing conditions are satisfactory, and while the immediate prospects are fairly promising, the industry still has with it the perennial problem of holding supply in balance with demand. In July, crude production will be well balanced with demand, under the strict allowables that have been prescribed in leading producing states. Gasoline production also promises to be reasonably restricted during the month, in view of the conservative crude allowables.

After July, the prospects are less distinct. Much will depend on crude allowables adopted for August by Texas, Oklahoma, Kansas, and New Mexico, the important Mid-Continent states that have been contributing most toward national balancing of supply and demand. Results will be determined to some extent, also, by the restraint practiced henceforth in controlling refinery operations.

Cooperation In August Likely

From the present viewpoint, it seems quite likely that current cooperation in crude control will be extended at least through August. Texas, Oklahoma, Kansas, and New Mexico appear likely to fix conservative allowables for August as they did for June and July. These states probably will be encouraged to adopt strict August allowables because of having found in June and July that such allowables promote firm markets. Another circumstance that may encourage low August allowables is the fact that states of the Interstate Oil Compact will meet at Dallas July 30, in furtherance of the aims of the compact. August allowables will be adopted prior to or during

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the meeting. Lately, these states of the compact have been cooperating with remarkable harmony. They almost certainly will strive to maintain this harmony through the meeting. Consequently, they seem quite likely to pursue conservative courses in fixing the August allowables.

Texas Commission Schedules Hearing

The Texas Railroad Commission possibly will inaugurate new allowables prior to August 1, in line with its lately followed policy of changing allocations on the 20th day of the month. The commission will hold its next monthly statewide proration hearing July 16. The latest hearing was on June 18, and new allowables were announced the following day, effective June 20. It was later found advisable to move the effective date forward to June 21. The July 16 hearing would allow more time for adopting new schedules effective July 20.

Texas Studies Rodessa Problem

In the Texas Railroad Commission's July 16 hearing the spotlight will be turned upon the Rodessa field and the special proration problems that it offers. For the first time, the commission will hear expert testimony on reservoir conditions at Rodessa. The commission's engineers for some time have been assembling data from the 15 wells on the Texas side of the field. Heretofore, the Texas commission has simply adopted for Rodessa, Texas, wells the same per well allowables authorized by Louisiana authorities for Rodessa, Louisiana. However, the Texas side of the field is developing into an important producing area, and the Texas Railroad Commission has been forced to take more initiative in regulating the field. The Texas commission has invited the Louisiana conservation officials to attend the July 16 hearing. It previously sought to hold a Rodessa hearing jointly with the Louisiana officials, with the object of inaugurating a joint conservation program. But so far, the Louisiana authorities have declined to participate in such a joint program, just as Louisiana has held aloof from the Interstate Oil Compact.

Thus developments have at least partially justified the anxiety that has surrounded Rodessa since oil was found there a year ago, such anxiety having been based on the fact two different states would be regulating the field. It was feared there might be friction between the two states. Actually, there has not been friction. But neither has there been much cooperation, since the Louisiana authorities have not warmed up to the Texas advances.

The July 16 hearing consequently will bring an important phase in the evolution of proration at Rodessa.

Louisiana Nearer Bureau Quota

Although Louisiana has consistently paid very little attention to the Bureau of Mines demand estimates since the demise of the oil code, there is perhaps a bit of encouragement in the fact that the state will adhere a little more closely to the Bureau recommendations in July than it did in June. The state allowable for July is 38,100 barrels a day above the federal allocation, while that for June was 41,275 barrels a day above the quota for that month.

This 38,100-barrel daily excess in Louisiana and a probable similar excess in California will represent about the only surplus crude production in the United States in July. California in June produced about 43,000 barrels a day more than its federal allocation, and there are no indications it will do much if any better in July. The state does not restrict production, and the only restraint is that practiced by the producers in their voluntary program. Together, Louisiana and California therefore will likely show a total surplus of around 75,000 or 80,000 barrels a day in July.

Effective Control in July Scheduled

Since all the other leading states will stay within or below their federal allocations, the United States as a whole probably will show an excess of less than 75,000 barrels a day during July. That would be only about 2½ percent more than the 2,917,200 barrels per day recommended by the Bureau of Mines, and would be a small excess, compared with the surpluses of some recent months. These factors indicate that above ground storage of oils probably will be reduced somewhat in July, since the federal crude quotas for the month were aimed at bringing about substantial reduction of stocks.

June Brought Favorable Results

These prospects for July thus represent an encouraging outlook. The results possibly will be even more satisfactory than those in June. And June itself was an exceptionally favorable month, having been marked by better than usual control of crude output, and accompanying substantial withdrawals from above ground storage. From May 30 to June 20 the nation's stocks of crude oil were reduced approximately 2,000,000 barrels, according to the Bureau of Mines reports, and in the remaining portion of June a further reduction of crude stocks is indicated. Meanwhile, gasoline stocks also were reduced substantially in June. American Petroleum Institute reports show that total stocks of finished and unfinished gasoline came down more than 2,500,000 barrels between May 30 and June 27. These withdrawals from storage were possibly because of fair success in restricting crude production. The nation's production during the month averaged a little over 2,950,000 barrels daily, or about 115,000 barrels per day more than the Bureau of Mines recommendation.

Mid-Continent Shoulders Proration Burden

These favorable results for the industry during June were attributable largely to the strict control programs pursued in the leading producing states of the Mid-Continent outside of Louisiana. With the Interstate Oil Compact Commission cooperating and coordinating the state efforts, Oklahoma, Kansas, Texas and New Mexico fixed state crude allowables under or close to Bureau of Mines recommendations. Consequently, most of the national excess of actual production above the June allocations was accounted for by Louisiana and California.

These same Mid-Continent states and the Interstate Oil Compact similarly are due credit for the favorable prospects for July, as regards national balancing of supply with demand. The Texas Railroad Commission drastically reduced Texas allowables June 20, and has given assurance that the state's output in July will be within the Bureau of Mines recommendation. The Oklahoma Corporation Commission has extended June allowables through July, which means that the state's production is to be restricted below the federal allocation again in July, as it was in June. Kansas similarly proposes to hold output below the demand estimate for the second successive month. New Mexico, too, has agreed to cooperate.

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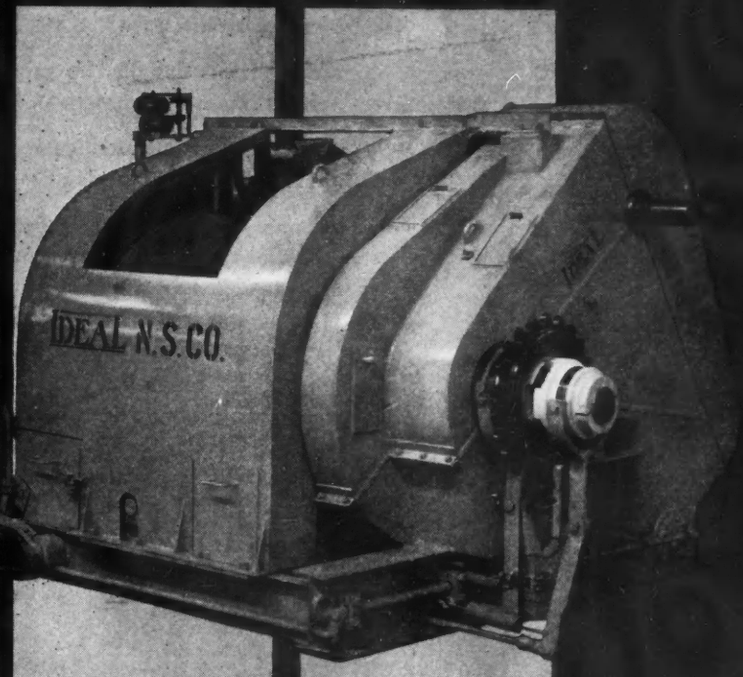

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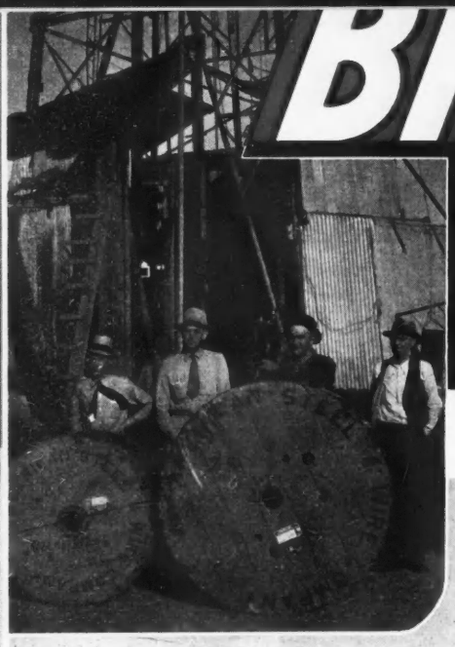

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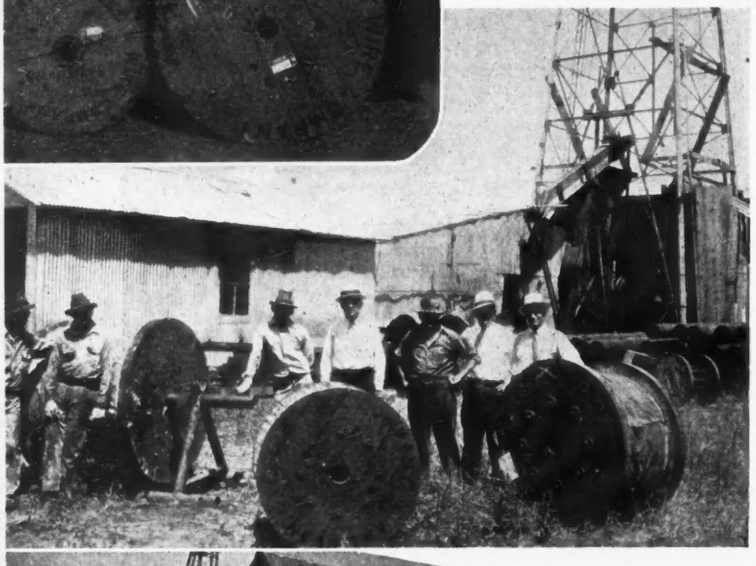

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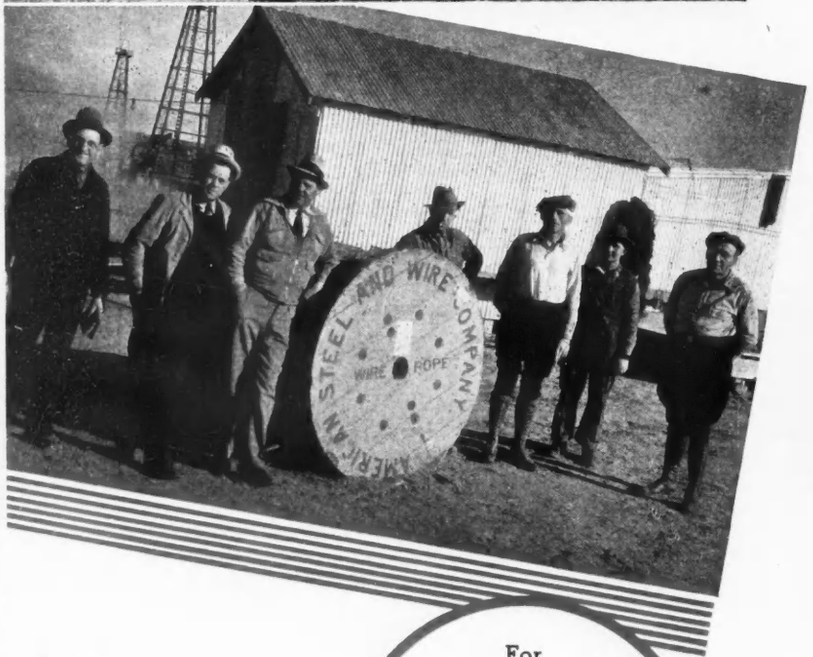

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MEN IN THE INDUSTRY'S NEWS

AMOS L. BEATY, a partner in the firm Beaty, Bowles & Borsodi, Inc., independent operators with headquarters in Houston, has been in Houston recently. He arrived by plane from the east and spent two days before flying back.

ALFRED SIMMONS, drilling superintendent of Compania Explotadora de Petroleo "La Imperial," S. A., at Pozo Rica, Mexico, is spending a vacation at his ranch in California.

J. EDGAR PEW of Philadelphia and Edwin S. Hall of New York have been appointed by President Axtell J. Byles to represent the American Petroleum Institute as delegates to the Third World Power Conference which meets at Washington, September 7 to 12. Several papers to be presented at the conference concern the general subject: "Production and Distribution of Petroleum and Its Products." Myron S. Watkins of New York University will speak on the organization of petroleum industries. E. DeGolyer of Felmost Corporation, Houston, will speak on the status of petroleum production. The history and status of petroleum refining will be reveiwed by J. Noel Robinson, Tide Water Oil Company, New York. Production control will be discussed by R. E. Hardwicke of Fort Worth. Joseph E. Pogue will discuss the economic structure of the petroleum industries. Conservation of petroleum and natural gas is to be considered in a paper to be presented by a representative of the United States Bureau of Mines.

DR. J. H. BOYD, JR., The Atlantic Refining Company, has been appointed a member of the American Petroleum Institute's advisory committee on fundamental research on composition and properties of petroleum.

TENNILLE HENDERSON, civil engineer with Mexican Gulf Oil Company at Tampico, is on a vacation trip to Guadalajara and various other points in the interior of Mexico. He is accompanied by his family from San Antonio, Texas.

W. W. BOND, Link-Belt Company, returned July 1, to the Indianapolis factory following a trip of two weeks throughout the Southwestern territory. En route the Gulf Coast he was joined at Dallas by G. N. Howson of the Company's industrial division, with whom he spent some time in Houston and adjacent points.

CARLOS Z. LERSUNDI, chief oil accountant of Cia. Mexicana de Petroleo "El Aguila," S. A., was married June 27, to Senorita Esperanza Perez, at Tampico, Mexico.

RUSSELL B. BROWN, general counsel of Independent Petroleum Association of America, and Ralph T. Zook, Sloan and Zook Companies, have been appointed delegates of the Independent Petroleum Association of America to the Third World Power Conference, to be held in Washington, D. C., in September.

JOHN D. ROCKEFELLER, SR., WILL REACH HIS NINETY-SEVENTH BIRTHDAY ON JULY 8

»

OIL TYCOON HAS SPENT THE PAST THIRTY YEARS IN SECLUDED RETIREMENT

»

International News Photo

JOHN D. ROCKEFELLER, Sr.

ON July 8 the press of all nations will pay tribute to the world's greatest financial genius, John Davison Rockefeller, Sr., who will be quietly passing his ninety-seventh birthday in peaceful seclusion. There probably will be no party, and if "John D." decides to do a little celebrating on his own, the program likely will consist of a few holes of golf, followed by crackers and milk.

Ostensibly having retired from active business about 30 years ago, counsel of the oil industry Croesus, only three years shy of the century mark, still carries the weight of that of a sage. That counsel is sometimes sought even today on matters of grave import by the present helmsmen of Standard Oil Company of New Jersey, it is told.

John D. Rockefeller is the most widely known man that has ever been associated with oil. That industry has grown from its inception to rank as one of the greatest on earth during the span of his life. He has had his critics, but the fact remains that it was largely due to the efforts of this one man, while the oil industry was in its infancy, that the industry has been enabled to meet demands made of it.

The retired tycoon of oil began life on a New York farm, moving to Cleveland at the age of 14 in 1853. He stayed there long enough to make Cleveland the oil capitol of the world in the nineteenth century.

Early in life he had inculcated into him the dignity of labor, the value of money, and the essentiality of Christianity. In connection with the latter, he joined the Euclid Baptist church in Cleveland at the age of 15 and was an active worker in the Sunday school and congregation as long as he lived there, serving as teacher and superintendent of the Sunday school. Before he was 19, John D. was a trustee of the church.

Soon after this, with a thousand dollars of his own and another thousand borrowed from his father, he entered partnership with Maurice B. Clark in the commission business, a business with which he was familiar as he had worked for Hewitt & Tuttle, a commission house in Cleveland, for salaries ranging from $4 per week to $700 per year after leaving school at the age of 16.

One year after Colonel Drake's discovery in Pennsylvania, when John D. was 21, he purchased an interest in a refinery, marking his entry into the oil business. In 1865 Rockefeller sold his interest in the commission business and bought out some associates in the refinery project, and the new firm of Rockefeller & Andrews rapidly enlarged oil manufacturing facilities.

Even this early in life, the man who has alternately been referred to as the greatest octopus of corporate business and the greatest philanthropist alive exhibited an uncanny foresight. He saw in the new industry a chance of a lifetime—saw, also, that future growth of the business was to consist mainly of export business. William Rockefeller & Company was formed, with brother William going to New York to handle the export business. Henry Flagler was at this time taken into the firm in Cleveland.

Further expansion in business demanded by 1870 formation of the Standard Oil Company of Ohio, with John D. holding the whip hand as president.

When he was 31 and kerosene was the most important product of petroleum, Rockefeller became the first president of the National Refiners Association. His obsession, if it may be called that, at this time was to give the world artificial light that would give maximum service at the least possible cost. So far as kerosene was concerned and as long as it lasted for that purpose, he came pretty close to being "the light of the world."

Two years after organization of the Ohio Standard, its capital stock was increased to $2,500,000. In 1872 that was an unheard of amount, and even more out of line with the times was an annual business of 25 million reported by the company.

Ten years later, or in 1882, business had grown so that the Standard Oil Trust, capitalized for 70 million and later

[*Continued on page 16*]

[*Continued from page 15*]

increased to 95 million, was incorporated to handle the business more efficiently. Rockefeller kept his post at the helm. When courts broke the trust, he was, financially, beyond the point of worry.

But to go back a bit, in 1864, he married Laura C. Spellman, a high school classmate whose tastes in social work and philanthropy paralleled those of the oil king. Five children were born and reared in simplicity and with frequent reminding of the importance of the church in life. This latter strain in the Rockefeller make-up, regardless of what may have been thought of some of his business tactics during the climb to the peak, may explain why he has spent the last 30 years of his life largely in supervision of organized charity work involving only money made by him. His gifts are too numerous to mention, even the relatively small percentage of them the public knows about, but the Rockefeller Institute for Medical Research in New York and Chicago University come close to the top of the list. Last year his philanthropic disposals were estimated at half a billion dollars. He has given to institutions throughout the world, regardless of race or creed.

W. T. DOHERTY, who has been Gulf Coast petroleum engineer for Humble Oil & Refining Company, has been promoted to the position of superintendent of the West Texas division. He will make headquarters at Midland. Doherty succeeds R. C. Barbour, who has been transferred to Tyler, where he becomes superintendent of the company's production activities in East Texas. Fred Seely, former production superintendent in East Texas for the company, has resigned.

W. C. JOSEY, president of Rancho Oil Company, Dallas, accompanied by his wife and daughter, departed last week for New York to take passage on the liner Queen Mary to spend the summer touring Europe.

LESLIE E. STEGALL, former pipe line scout for Shell Pipe Line Corporation in the East Texas field, has been transferred to the land department of the Shell Petroleum Corporation and placed in charge of the East Texas land and lease activities.

ELMER F. SCHMIDT MADE VICE PRESIDENT OF LONE STAR GAS COMPANY AND JULIAN FOSTER BECOMES GENERAL SUPERINTENDENT

SCHMIDT ENTERED THE GAS BUSINESS IN 1912

ELMER F. SCHMIDT, general superintendent of Lone Star Gas Company, has been elected a vice president of the company, L. B. Denning, Lone Star president, has announced. "Until further notice" Denning stated, "Schmidt will have charge of all production and transmission system activities, responsible to the president."

Julian L. Foster, chief engineer for Lone Star, has been appointed general superintendent, combining the duties of chief engineer with those heretofore performed by Schmidt as general superintendent.

Schmidt's election brings under his supervision production and transmission activities of one of the largest natural gas systems in the southwest, including the company's 4000 miles of transmission pipe lines, its 25 compressor stations, and field operations embracing more than a thousand gas wells in 32 separate gas fields in Texas and Southern Oklahoma.

Born in Binghampton, New York, in 1889, Schmidt is a graduate of Cornell University. His first job after receiving his civil engineering degree in 1912 was with the engineering department of Ohio Fuel Supply Company at Charleston, West Virginia, where he remained until 1913, when he went to Northwest Ohio Natural Gas Company at Toledo. In 1914 he became associated with Fayette County Gas Company at Uniontown, Pennsylvania, and in 1915 went to the engineering department of Ohio Fuel Supply Company at Columbus, Ohio. In 1917 he transferred to the gas measurement department of that company, and while in this position he aided materially in developing the orifice meter mercury differential and the gas density balance used today in determining specific gravity of natural gas. The modern science of accurate and dependable high pressure natural gas measurement owes much to this early experimentation and development work carried on by Mr. Schmidt.

In June, 1918, Schmidt joined Lone Star Gas Company, coming to Dallas to take charge of gas measurement when about 12 people made up the whole general office staff of the pipe line company. In 1919 he became chief engineer and was made general superintendent of the company in 1920. He was elected to the board of directors of the company in May, 1935.

A member of the American Society of Mechanical Engineers and the Cornell Engineering Club, for a number of years he has taken an active part in the Dallas Technical Club.

Julian Foster, new general superintendent of Lone Star, is a native of Fort Worth, Texas. He graduated from the Fort Worth high schools and received his engineering degree from Texas A & M College. Entering the engineering department of the Lone Star in 1918, he was granted a two-year leave of absence in 1920 to serve the United States Bureau of Mines in developing its helium gas plant at Petrolia, Texas. He was assistant to Schmidt until 1926, when he was appointed chief engineer of the company.

BOWMAN THOMAS, in the engineering department for the Humble Oil & Refining Company, Houston, has been transferred to the San Antonio office to be in charge of the engineering department. Leedy Webster, also in the engineering department of the San Antonio office, has been handling the post during June.

E. B. REESER, president of Barnsdall Oil Company, in company with Mrs. Reeser, is visiting in eastern states and will take a short coastal trip before returning to the company's offices at Tulsa.

W. R. HALL, assistant chief scout for Continental Oil Company in the Fort Worth division, is vacationing in Southwest Texas.

DIED:

R. B. WHITEHEAD, chief geologist for Atlantic Oil Producing Company, Dallas, died July 1, 1936, at Grace Hospital, Detroit, Michigan, after an emergency operation following a long period of illness. His body was moved to Mt. Pleasant, Michigan for funeral services. Whitehead graduated in 1915 from the University of Chicago where he studied geology. After graduating from college he was employed by Empire Oil & Gas Company as a geologist. In 1918 he came to Dallas, where he was made chief geologist for Atlantic Oil Producing Company and served in that capacity until his death.

He was widely known in the oil industry and was one of the most prominent geologist in the Mid-Continent. He served as president of the Dallas Petroleum Geological Society, chairman of the reservation committee of the American Petroleum Institute in 1934, chairman of the arrangements committee of the Association of American Petroleum Geologists in Dallas in 1925, was responsible for the bridge connecting the Baker and Adolphus Hotels when the American Petroleum Institute held its meeting in Dallas in 1934. He was a founder and vice president and director of the Dallas Petroleum Club, a member of the Highland Park board of education and a firm supporter of Southern Methodist University and the athletic department. He was also responsible for the meetings of the geologists in the early days of the East Texas field.

After spending some months of illness in Dallas and Galveston, Texas, Whitehead went to Detroit. At the time of his death Albert Grey, geologist for Atlantic Oil Producing Company and R. B .Whitehead, Jr., the only survivor of the deceased, were at the bedside.

C. E. DOUGLAS, widely known Oklahoma oil man and developer of southern Oklahoma production, passed away at Kansas City, Missouri. Death was due to a heart attack. Mr. and Mrs. C. E. Douglas had recently gone to Kansas City from Okmulgee.

ROBERT G. CRIPPEN, 53, production superintendent for Chartiers Oil Company, Michigan division, died at Mt. Pleasant, June 28, following a brief illness. The body was removed to Smithfield, Ohio, his birthplace, for burial.

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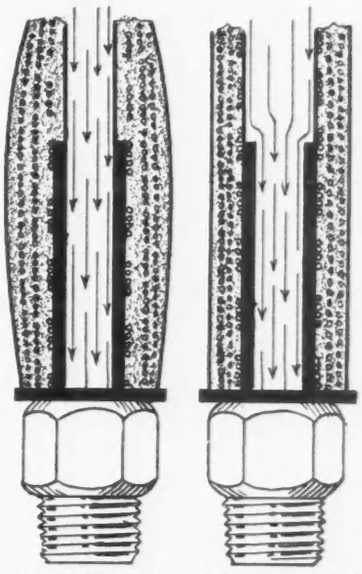

FULL-FLOW design eliminates restriction of flow at nozzle, and therefore eliminates cutting out.

Old method of inserting nozzle in hose reduces flow area, causing turbulence and premature wear on nozzle.

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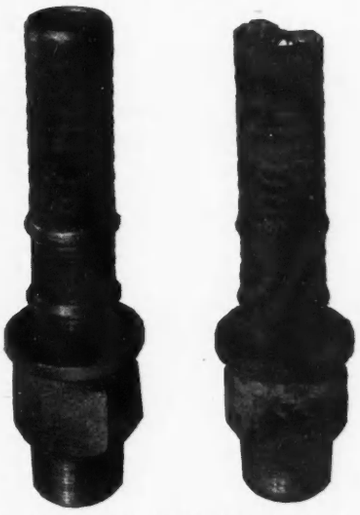

Unretouched photograph shows results of sand-laden slush with restricted flow nozzle design. Note at the right the knife-like edge of the nozzle which cuts the tube and results in blown-out hose. Left pictures nozzle prior to installation

The tube is the finest abrasive-resisting material available. Wire covering is spot welded on the stem, and wrap arrangement of wire plies protect against both outward pressure and elongation. Wire cushioning is of high tensile rubber. There are 17 plies of square woven duck. The cover is extra heavy pure gum.

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Photograph of cut-away section of GOODALL LONG-LIFE ROTARY HOSE presents the advanced design and construction employed.

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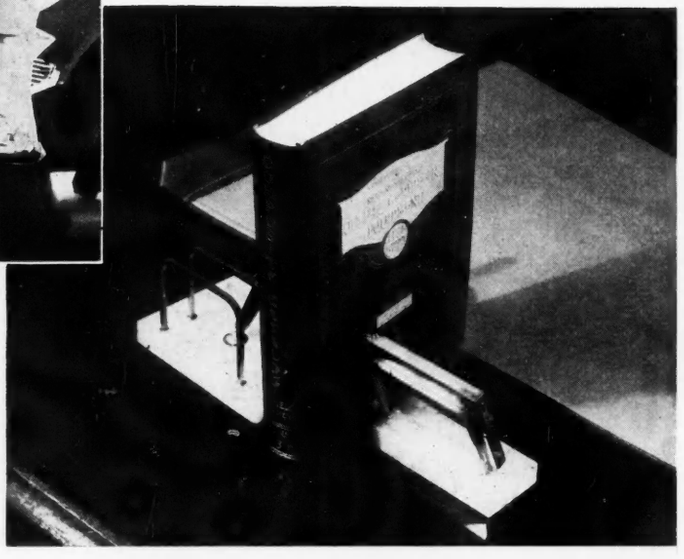

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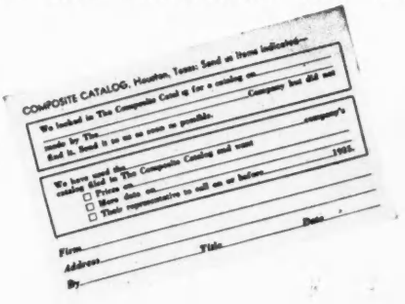
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IN connection with the article presented herewith, it is of interest to recall a statement made in a paper by V. H. Wilhelm, petroleum engineer with The Texas Company at Los Angeles, presented before the American Institute of Mining and Metallurgical Engineers in session in New York in February.

Speaking of some types of future production technique that may be expected to develop in the United States, Wilhelm predicted recovery of oil in exhausted, or nearly exhausted fields, by employing a process somewhat similar to the mining process. "In California there are many fairly depleted oil fields," he stated. "There it would be possible to drill shafts under the shallow oil zones, drill holes upward into the sand from beneath, insert perforated pipe, which would be cemented in the underlying shale, and produce the oil."

Reviving Production

OF A NEARLY EXHAUSTED GERMAN FIELD BY PENETRATING SANDS FROM BELOW

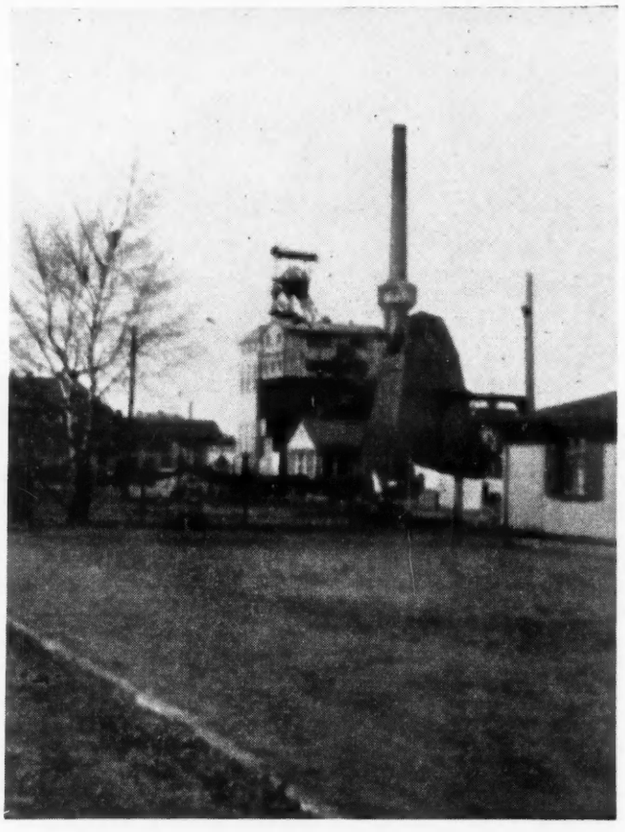
By WALTER SACK

THE German oil industry, much smaller but a few months older than its big brother in the United States, has developed efficient exploitation methods during its steady growth since April, 1859. Its greatest feat was probably achieved with the revival of the nearly exhausted sands of the Wietze-Steinfoerde oil field province Hannover, Germany.

This field lies in the lowlands of northwestern Germany, and was discovered in April, 1859, by professor Hunaeus, Hannover. For several decades Wietze-Steinfoerde field was the country's chief producer, boasting at the height of its activity, 1880, of 40 individual concerns with more than 3000 employees. If measured by the dimensions of some of the structures in the United States, the Wietze-Steinfoerde field cannot be classed extensive, as the productive area lies within 4000 to 5000 acres. The productive sands have an average thickness of 60 feet, vary in width from 500 to 1000 feet, and dip from the shallowest place, 122 feet, gradually in a northwesterly direction to a depth of 600 feet. This monocline was evidently formed by the upward push of a huge salt bed, which stands nearly perpendicular in the form of a wide dyke and runs in a right angle to the length of the field, like the crossbeam of a giant capital T.

The boundaries of the field had been determined during the late nineties. From that time until about 1910 large sums were expended in prospecting for deeper structures and for the possible extension of the developed one, without obtaining satisfactory results. Production dwindled down to less than half of the average of 1880, and at the beginning of the World War more than 50 percent of the one-time producers had been drained below a profitable stage. However, during the war, when the import of oil and its by-products was seriously interrupted, these old abandoned wells were once more cleaned and worked for the oil they would yield rather than profit.

After the rich Alsace fields were taken over by France under the Treaty of Versailles, Germany's oil production dwindled down to practically nothing; consequently, the price of oil soared sky-high. About that time earnest efforts were directed toward finding a medium by which to win all the oil of the nearly exhausted Wietze-Steinfoerde field, as it was estimated—and later proved—that about only two-fifths of oil had been drained from the sands. The remaining three-fifths were still in the ground, but could not be recovered with profit by the known surface operations. These facts led toward the



Power plant and oil mine in the Wietze-Steinfoerde field.

unique idea to attack the structure from below and drain the remaining oil from the sands by gravity.

With the cooperation of that country's Department of Mining, extensive researches and experiments were carried out to prepare a safe underground development program. The sands were already de-gased through the closely grouped drill holes on the field; thus, little danger was feared from that angle. However, the sinking through a capping of porous limestone, which was saturated with oil and gas, had to be considered. Since this cap-rock had to be broken with explosives, it was feared that the detonations in an atmosphere of gas and oxygen might be disastrous to life and property. To evade such possible accidents a barren place several hundred feet off structure was selected for the sinking of the shaft.

Carefully kept logs of the wells drilled on the entire field provided accurate information of the different stratas, water courses, the dip and thickness of the productive sands, and related data. Detailed maps were drawn from these known facts of the underground features of the field; and in turn, upon these maps was based the new development program.

Unit Operation

The individual lease-holders consolidated into one concern, making it possible to exploit the whole field by the new method with only one shaft, thus reducing the development expenses per acre of productive oil sand to approximately $300. The new scheme promised to pay rich rewards even if the remaining oil in the structure should be less than the estimated three fifths.

Work began with the erection of a steel headframe for sinking a 700-foot, double compartment shaft at a place midways of the field, but well off structure. The first one-hundred-odd feet of ground consisted of coarse gravel with a high level of surface water which would have made the sinking a costly and difficult job if the "freezing method" had not been known and applied. The frozen overburden was drilled and blasted out; and simultaneously, the walls of the circular shaft were lined with concrete, which was forced behind sliding forms. After a tight shut-off had been accomplished in a fine-grained bluish clay, the sinking proceeded without the aid of the "freezing method" at a surprising rate of speed. The softer ground—clay, and even some of the shale—was dug with air-powered spades. In less than a year the actual sinking of the shaft, including a station at the 350 foot level, had been completed.

Tunnel Arrangement

Thereafter, the work was shifted to the driving of two tunnels, one from the 350-foot station in a southeasterly direction (the apex of the monocline) the other from the 700-foot level in a northwesterly direction (the bottom of the structure). These tunnels run parallel to the length of the field, outside of and below the oil sands. Their grades are not more than required for efficient drainage of mine-waters. Like the shaft, they are tubular and lined with concrete. A series of drill holes had been brought down in the course of these tunnels for ventilation purposes. Whenever a drill hole was tapped below, an electrically driven fan was connected at the surface to circulate a steady flow of fresh air down the weather compartment of the shaft, through the tunnels, and out again to the surface through the drill holes.

Crosscuts

In a right angle to these tunnels, crosscuts were driven underneath the oil sands and even a short distance beyond. The first crosscut on each level was 300 feet from the shaft proper. The following ones, running parallel to the first, were spaced 600 feet apart so that the whole structure was laid out in blocks 600 feet wide. At the end of each crosscut was dug a large sump, which was connected with the surface by another ventilation hole that also was to house a surface operated deep-well pump.

Since it was the aim to drain the oil from the sands with upward pointed holes drilled from the crosscuts, it was found very practical and economical to divide the development work in two levels, as mentioned before, in order to hold down the distances between the roofs of the crosscuts and the oil sands above. The 350-foot level, assigned to drain the southeasterly half of the field, had its first crosscut—counting from the shaft—about 75 feet below the oil sands; and its last one, under the apex of the structure, about 230 feet below the sands. The 700-foot level, assigned to drain the northwesterly half of the field, had its first crosscut—also counting from

the shaft—about 350 feet below the oil sands; and the last one, under the bottom of the monocline, about 100 feet below the sand.

As soon as one crosscut on each level was completed, the tapping of the structure began. For this purpose special drills with hydraulic feeds had been constructed—similar to the well known air driven diamond drills used underground in mines for core drilling. These drills are compact, easily transported from one set-up to another, and can be mounted quickly on strong jack bars. Since all the drilling was to be done in a right angle to the crosscuts, drill rods and casings were cut to permit their handling in the limited spaces of the set-ups.

From each set-up seven holes were drilled into the oil sand above—three on each side, one above the other, and the seventh at 90 degrees straight up through the roof of the crosscut. The lowest hole on each side was always directed at such an angle as to bottom it in the oil sand above, 25 feet inside of the centerline of the blocks between the crosscuts. The intermediate holes were pointed to divide the drainage area between the lowest and the roof hole as evenly as possible. Such fan of drill holes as just described was spread every 50 feet in the crosscut tunnels so that an area of 300 feet in width on either side was drained into one sump. During the progress of the drill work all finished holes in a crosscut were capped.

Drilling these holes was a smooth, fast performance. A common fishtail bit six inches in diameter with hard surfaced flukes was used. Guides were added behind the bit to keep the holes as much as possible on their courses. The average progress per eight-hour shift was 100 feet, including coring some of the harder shales. The six-inch casing was shoved into place with dogs by the hydraulic swivelhead of the drills.

Yield and Cost

Later, when these holes were opened they yielded a steady flow of about two barrels per hour; and the average of 500 feet of drilled crosscut was about 250 barrels per hour. This oil ran into the sumps at the end of the crosscuts and was lifted to the surface by ordinary deep-well pumps, which were installed through the crosscut ventilation holes.

It was estimated that it would take longer than 25 years to drain the entire field by this new method. After a thorough draining of the sands it was intended to actually mine them and wash them in a surface plant.

The cost of the entire development was estimated to about $1,500,000, which includes the drilling of the ventilation holes and the installation of short pipe line system from the field to the railroad at Wietze-Steinfoerde.

The success of this new draining method soon inspired other concerns in the neighboring Haenigsen-Nienhagen field, which has the identical geological features of the Wietze-Steinfoerde field, to do the same. A shaft was started there in 1921 and was carried down to a depth of 180 feet. About that time the extension of that field was discovered beyond a faulted zone, and the new wells which tapped the sands at considerable depth became such important producers so that the sinking of a shaft for the nearly exhausted shallower structure seemed too small an undertaking.

Nevertheless, the Wietze-Steinfoerde production rose once more to an important place in the German oil industry thanks to the unique idea of attacking the oil bearing sands from below.

A sand dump in the Wietze-Steinfoerde field of Germany

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Gas Gathering and Fuel Distribution Systems

By R. L. HUNTINGTON,
University of Oklahoma, Norman, Oklahoma.

IN the accompanying article the author deals with the gas gathering and fuel distribution systems, which are important adjuncts to natural gasoline plants. The article includes discussions on the raw gas trunk lines, relationship between sizes of the suction and discharge lines, increasing the gas handling capacity of a compressor station, discussion of large lines versus small lines, right-of-ways, construction of pipe lines, kind of pipe to be used, drips and residue return lines.

AS soon as the location has been made for the absorption and distillation units and the compressor stations, the work of bringing the gas from the various leases to these units and stations should be carried on with the rest of the construction program. If the field is only partially developed, the gas gathering lines must necessarily be larger than those required for handling the volumes available at the time construction is started in order to take care of future development. The decision therefore as to the size of the trunk lines must be based on:

1. The estimated amount of gas to be handled.
2. The distance the gas is to be transported.
3. The differential between the field pressure and the intake pressure at the plant.

This pressure differential of course is apt to change during the life of the field. In other words, it may be better to put in a line slightly larger than the one required to handle the large initial gas volumes at high pressure because of the decreased capacity of the line when it is forced to handle gas under reduced pressures. The decision on this point should be based largely on previous experience in the behavior of other fields.

It is always advantageous to bring the gas into the compressor station by piping it into both ends of the intake gas header so that each compressor will receive about the same load of gas. If the gas header is unusually long it is sometimes necessary to bring one of the incoming trunk lines into the center of the header as well as into each end. As the trunk lines go out into the field they should become progressively smaller in size as various feeder or branch lines are brought into the main trunk line. This can best be shown by an illustration of part of a gathering system as in Figure 1.

By knowing the approximate volumes on each lease which feeds into the trunk line the size of each segment can be calculated through the use of Weymouth's formula by the trial and error method; that is, the pressure drop can be assumed to be proportional to the length of each line segment. Then by taking the total amount of gas feeding into each segment, the size of the respective lengths of pipe line can be calculated. Before the most economical size is determined, however, other assumed pressure drops should be made since it may not be the most economical plan to have pressure drops proportional to the distance through which the gas must travel. These calculations can not be made with too high a degree of accuracy because allowances must be made for the bringing in of new wells on each lease and also the possibility of securing gas from leases adjoining the trunk line on which con-

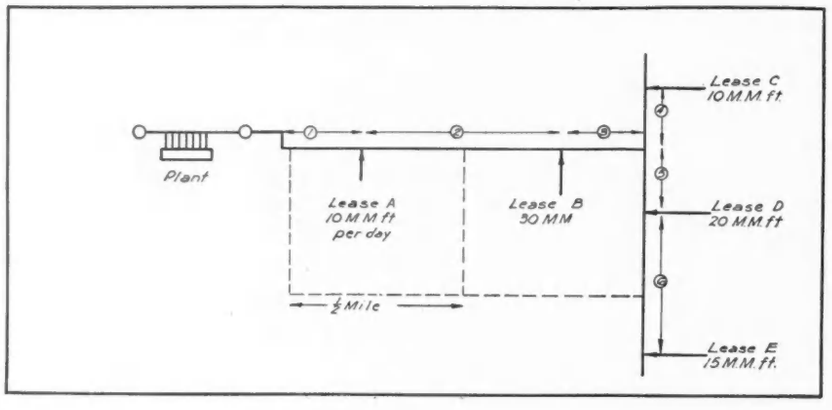

FIGURE 1

Part of a Gas Gathering System. Amount of Gas Handled by Each Segment.

(1) 85 million cubic feet per day
(2) 75 million cubic feet per day
(3) 45 million cubic feet per day
(4) 10 million cubic feet per day
(5) 35 million cubic feet per day
(6) 15 million cubic feet per day

Pressure drop in each segment should be approximately proportional to its length.

THE USE OF EXPLOSIVES IN PROSPECTING FOR OIL

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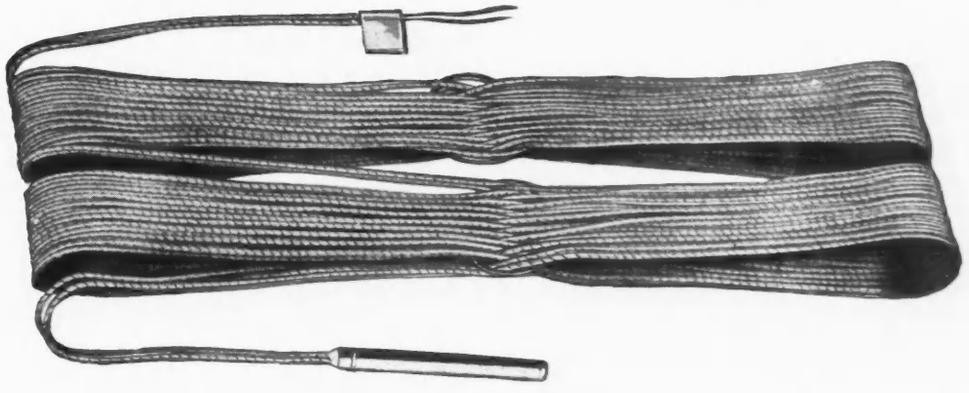

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tracts have not been made at the time the lines are laid. To take care of such contingencies, connections should be welded into the trunk lines at various points wherever it is possible that additional gas may be secured in the future. Block gates on trunk line loops often prove to be invaluable when certain sections of the field system must be shut down for repairs.

Weymouth's Formula is expressed by the following equation:

$$Q = (870)\, D^{8/3} \left[\frac{P_1^2 - P_2^2}{L}\right]^{1/2}$$

where Q = Cubic feet per 24 hrs. at 14.4 lbs. and 60°F.
P_1 = Initial pressure lbs. per sq. in. abs.
P_2 = Terminal pressure lbs. per sq. in. abs.
D = Inside diameter of pipe in inches
L = Length of pipe in miles

The constant in the formula is based on gas of 0.6 specific gravity. For gas of other specific gravity the constant becomes $870 \left[\frac{0.6}{G}\right]^{1/2}$ where G is the new specific gravity.

From this equation nomographic charts have been made so that slide rule calculations are no longer necessary. The engineer however should verify the results he finds on such charts by actual calculations.

Relationship Between Sizes of the Suction and Discharge Lines

In laying out a gas gathering system, there should be a definite relationship or balance between the sizes of the suction and the discharge lines serving a compressor station, i.e., the amount of horsepower expanded in pulling the gas to the station should be no greater than the energy required to force the gas from the booster station to the absorption plant. The flow of gas through field lines is essentially isothermal, therefore the work required to handle a fixed quality of gas at a certain temperature is proportional to the logarithm of the ratio of the higher to the lower pressure. This fact is easily seen by reference to the equation for the isothermal expansion of a perfect gas:

Work per lb. mol of gas = $R\ T\ \ln_e P_1/P_2$
where R = Ft. lbs. per °F per lb. mol = 1544
T = 460 + °F
ln = Natural logarithm base (e)
P_1 = Initial pressure lbs. per sq. ft.
P_2 = Terminal pressure lbs. per sq. ft.

If the average pressure on the oil-gas separators in the field is 5 pounds per square inch gage and the suction to the compressor is atmospheric the ratio of P_1 to P_2 would be $\frac{5 \text{ lb} + \text{atmos. pr.}}{\text{atmos. pr.}} = \frac{19.7 \text{ lb abs}}{14.7 \text{ lb abs}} = 1.34$. If this same gas is compressed to 50 pounds gage or 64.7 pounds per square inch absolute, the discharge line would consume the same amount of energy as the intake line if the terminal pressure at the oil absorber were 48.3 pounds per square inch. In other words

$$\frac{19.7}{14.7} = \frac{64.7}{x}$$
$$x = 48.3$$

The importance of pressure differential in the suction lines is therefore often overlooked because it is not the pressure drop which determines the expenditure of energy, but the logarithm of the ratio of the inlet and terminal pressures of the line.

Increasing Gas-Handling-Capacity of a Compressor Station

Additional gas occasionally is tied into a gas gathering system. The increase in gas volume often calls for either parallel trunk lines or more compressor units in order to maintain the desired pressure on the leases from which the gas is being purchased. The solution of such a problem is more complicated than one would consider it to be on first thought since the compressor station and its suction and discharge lines are interdependent. If the compressor station is enlarged with no change in the field lines, the pressure differentials through the pipe lines increase, causing a decrease in the amount of gas handled per compressor unit. Likewise, enlargement of the field lines is poor economy if the compressor station cannot handle the amount of gas fed to it. There is this much to be said in favor of enlargement of the field lines, namely, that the cost of operating and maintaining the lines is far less than compressor upkeep. Therefore it would be preferable to spend a definite amount on field lines to obtain a certain increase in gas handling capacity than it would be to invest a similar sum in compressors to get the same result.

Advantage of Large Lines Over Small Ones

If it appears likely that a gathering system will have to be enlarged in the near future it is good economy to install a larger line instead of putting in the proper size line at the time, and a parallel one later on.

For example a 12-inch I.D. line will handle 5 percent more gas than an eight-inch line and a 10-inch line operating in parallel.

This result is obtained from Weymouth's formula by taking the (8/3) power of the diameter of the line, since the quantity Q, is proportional to that power of the diameter.

$$12^{8/3} = 750 \text{ or } \left\{\begin{array}{l} 8^{8/3} = 257 \\ 10^{8/3} = \dfrac{457}{714} \end{array}\right\}$$

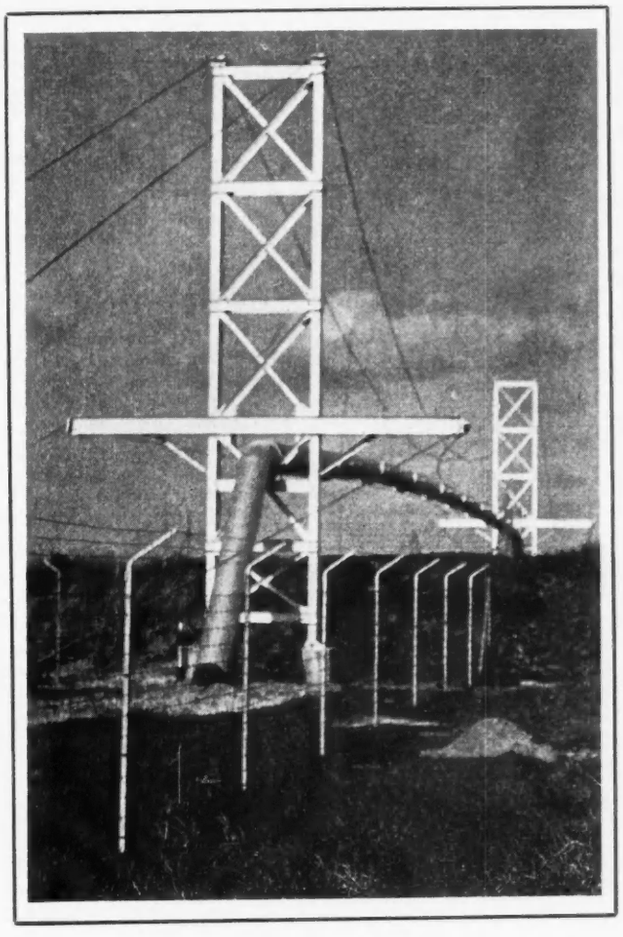
$$\frac{750}{714} = 1.05 \text{ Ratio of Capacity of } \frac{\text{12-inch line}}{\text{8-inch + 10-inch lines}}$$

Rights of Way

Several proposed gathering systems should be mapped out by the engineering division before an attempt is made to secure rights of way. By having several different plans, a comparison of right of way costs can be made; for example, a saving in the number of feet of trunk line may be obtained by laying the line diagonally across a farm. But this increased saving may be offset by the additional cost of crop damages as well as the added cost of policing the diagonal line, compared with the simple task of keeping in touch with the condition of lines which are laid along highways. Although lines along highways are easier to observe, there is, however, this disadvantage that any serious gas leak along the highway is more likely to cause personal injury to someone than a similar leak might cause if it were on the line running across a farm. It is advisable to keep gas lines away from all farm dwellings and oil field camps on account of the danger of the loss of life in case of fire from line breakage.

Topographical Considerations

There are other things to consider in the selection of rights of way for pipe lines. The topography of the



land should be taken into consideration as well as the nature of the soil. Excavation costs through rocky land may be as much as two or three times the cost of digging ditches through ordinary soil or clay. If the proposed line can be kept away from areas where water stands, rapid external corrosion of the pipe lines often can be prevented.

River Crossings

It is well to avoid as many river crossings as possible, as floods are apt to wash out pipe line crossings unless they are placed on suspension bridges above flood level. Pipe lines can be laid in beds of streams with a fair degree of success if a semi-circular bend is made up stream, and the line is anchored heavily with river clamps so as to overcome the buoyancy of the water. By bending the lines upstream the force of the water tends to compress the joints of pipe whereas tension is set up, tending to pull the line apart if it is laid straight across the stream or is bent downstream. In Figure 2 a diagrammatic sketch shows the right and wrong methods of construction of river crossings. If the river has a changeable channel it is well to anchor the line for some distance on each side of the present river bed to take care of any future change in the bed of the stream. Changes in the channels of broad, meandering rivers having quicksand bottoms often come about suddenly during flood stages. Several parallel lines should be laid across the stream, so that the main line would not have to be shut down in the event one line should break. Each parallel line is equipped with a shut-off valve on each bank of the river. The capacity of the several parallel lines should be greater than the main line so that the breakage of one line would not cause the remaining lines to become a bottle-neck, or constriction for the trunk line.

Since the gasoline plant is not considered a common carrier, it can not exert the right of eminent domain and confiscate the land across which the trunk lines of the gathering system may cross. It does have the right, however, to lay the gathering lines on individual leases provided a reasonable payment is made for crop damages. In some districts where unreasonable demands have been made for right of way costs some companies have even gone so far as to spend greater sums in laying pipe lines around certain tracts of land rather than to set the example of paying exorbitant right of way costs. The question of rights of way should be handled by competent legal talent and not by the engineer. Of course it is necessary for the engineer and attorney to work together in securing the most suitable location but the main thing is to see that the right of way is obtained before any entrance is made upon a tract of land for the purpose of starting the construction of a pipe line.

The right of way generally calls for a certain width through a tract of land. For example, if it is in a heavily forested region it may be necessary to clear away trees and brush for a width of 20 feet or more in order to haul in the material and carry on the work of ditching, laying the pipe and finally back-filling the

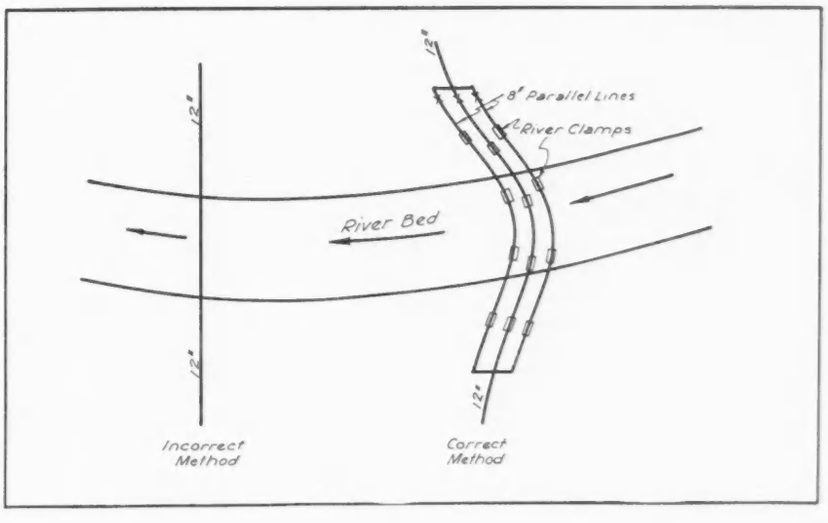


FIGURE 2

Correct and Incorrect Methods of Installing River Crossing in a sandy river bed too wide for a suspension bridge.

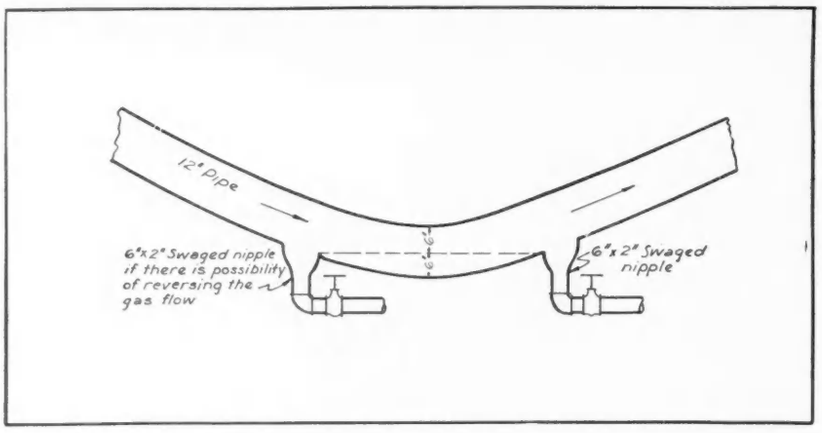


FIGURE 3

Diagrammatic Sketch showing location of drip connection in a low place in the line.

ditch. In good farming areas it is not so essential to use such a wide strip of ground, for once the line is laid the farmer may go ahead and plant crops in the soil above the pipe line, unless regular inspection of the particular line is considered essential in the operation of the gathering system.

Most right of ways provide for the right of ingress and egress, i.e.: in case of line breakage or whenever repairs are needed the pipe line owner has the right to enter and leave the particular tract of land. Of course settlement may be required in the event of crop or property damage.

Construction of Pipe Lines

As soon as the rights of way have been obtained, the construction of the pipe lines is the next step in the bringing of the gas to the plant. This work may be done either by an organization of men within the oil company or it may be contracted with some outside engineering firm which specializes in pipe line construction. The tendency has been toward the letting of more and more contracts to contractors. Although at first one would think that an organization within a company might put in a line more economically than a contractor, the opposite results have been found to be the general rule. This is due probably to the fact that an oil company cannot afford to maintain a pipe line crew from one month to another, while the contractor is able to keep an experienced crew at all times. In addition to this, the contractor usually has all kinds of labor-saving machinery which many oil companies may not see fit to purchase just for occasional construction periods.

Kind of Pipe To Be Used

For gas lines, the kind of pipe to be used will depend upon the working pressures under which the gas is to be handled. For high-pressure gas lift systems which operate up to pressures of 500 or 600 pounds, it is common practice to use extra heavy line pipe. For the lines bringing the gas from the wells to the compressor stations under pressures below 100 pounds the trend is toward the use of very light weight casing. For many years gasoline plants used ordinary line pipe, regardless of the pressure or vacuum under which the lines might operate. This line pipe proved to be not only more expensive but the cost of laying, especially the larger sizes, was much higher than that of handling the light-weight pipe, which is now being used to a large extent on the lines ranging from 6- to 24-inch.

The use of screwed pipe is rapidly becoming a thing of the past except for sizes up to 2 or 3 inches in diameter, and in many cases even 2-inch lines are being laid with special flanged couplings instead of screwed couplings. For the larger lines the use of sleeve couplings on each joint is being replaced by the method of welding several joints together and placing a sleeve about every fourth or fifth joint. A number of the lines are of welded construction throughout their length. Expension is taken care of by special welded expension joints. If second-hand screw pipe is available it is often more economical to cut off the couplings, and either weld or couple the line with sleeves than it is to screw the pipe together with tongs.

The Removal of Liquid from the Line

The efficient operation of any gas line depends largely upon the degree to which liquid is kept out of the lines. The removal of the crude oil, water, and gasoline condensates cannot be accomplished unless adequate scrubbers and drips are provided. Every low place in each line offers a place for liquid to accumulate, thereby reducing the capacity of the line. If there is danger of certain crude oil flow tanks and separators failing to take care of large producing wells, the installation of scrubber tanks equipped with liquid-level traps is essential. Where the gas velocity is high, only the slowing down of this velocity will give the entrained mist a chance to settle out. In some cases separators, packed with glass wool, are required for the precipitation of very fine mist particles. These scrubber tanks generally are placed above the surface, in order to save the expense of burying the tank, and also to avoid the more rapid corrosion from the soil.

Drips for Condensate Removal

For the ordinary sags in the gathering lines, drips generally are used for the removal of liquid. These drips are placed a short distance on the down-stream side of the lowest place in the line, usually at a point which is about one half of the pipe diameter above the lowest point. In Figure 3 the proper location of a drip connection is shown. If the drip were placed at the lowest point the liquid accumulating beyond this point would not have a chance to run back freely into the drip and as a result, within a short time, a large slug of liquid would be surging back and forth on the down stream side of the drip. If there is a likelihood of the reversal in direction of flow of the gas in a main line, as the result of the enlargement of one plant and the partial abandonment of another station operating on the same gas system, it is well to provide drip connections on each side of the lowest place in the line. The swaged

nipple into which the condensate drains should be at its upper end, half the diameter of the line for 8-inch and above, in size, and the same size as the diameter for 2- to 4-inch lines. Since drips are expensive to install and increase the operating cost required to keep the lines free of liquid, the grading of the bottom of the pipe line ditches should be made with the view of eliminating as many swags in the line as it is economically possible. Figure 4 gives diagrammatic views of two typical drip assemblies. Part A shows a drip where dry pressuring gas is available while part B displays one which has to be drained by gravity.

The conventional drip usually is made out of a joint of pipe or casing, its size varying with the amount of condensate to be stored between drip blowing periods. So long as the gas line is under three pounds per square inch pressure or more, the drips can be readily emptied by opening the outlet valves. When the pressure in the line falls below the hydrostatic head of the condensate, it is necessary to shut the valve between the drip and the line, and then blow the condensate out with residue or high-pressure gas. When residue lines are not available the only alternative is to drain the drip. In level country a bell hole must be dug to a depth greater than the outlet of the drip. Such holes should be fenced in securely in order to prevent likestock or children from falling into them. If the condensate in the lines is not worth collecting as drip gasoline, it should not be allowed to accumulate or drain into streams causing damage to growing crops or injury to livestock.

Residue Return Lines

The natural gasoline fractions are removed from the raw gas in the absorber, and the dry residue gas is returned to the producing leases to be used as fuel. It is customary to lay these fuel lines alongside the raw gas lines in order to save ditching costs, and to provide the needed pressure for blowing condensate from the drips connected to the raw gas lines. The residue gas often carries considerable quantities of water and absorption oil mists, which may be carried for a mile or more before they settle out and drain into the drips. Scrubber tanks placed a few hundred yards away from a plant on residue lines often prove effective in collecting water and absorption oil; thereby preventing freeze-ups in cold weather. When a residue line is laid in the same ditch with a raw gas line it is advisable to place the lines at least a foot or two apart so as to facilitate repair work and to reduce the tendency for electro-chemical action to take place, due to potential differences in the electro-motive forces of the two lines. The small valves which are used in the pressure lines to the drips should be kept in good condition, for otherwise residue gas will leak continuously from the fuel line back into the raw gas system. This leakage would not only tend to overload the compressors but would reduce the extraction efficiency of the plant in general, on account of the reduction in the gasoline content of the gas.

The natural gasoline manufacturer returns the residue gas to the edge of each lease from which the raw gas is purchased. From this point the oil producer pipes the dry gas over the lease. The usual contract calls for the return of sufficient fuel for lease operation. During the flush gas periods, the fuel question rarely causes any disputes or difficulties between the plant operator and the oil producer. In the older fields the matter of distributing fuel gas is indeed a major consideration in the operation of the plants and leases. Wasteful practices of all kinds have to be stopped, such as the use of flambeaus or torches for out-of-door illumination. Diaphragm reducing valves replace gasometer cans around gas engine houses. Residue meters also are placed on each lease to measure the return gas. These steps toward conservation must be taken to assure each lease sufficient fuel, especially during the early morning hours when the demand for dry gas is heavy, and the plant is receiving its minimum supply of raw gas. In many of these older fields an effort is made to equalize the demand for fuel by pumping the wells on the several leases supplying the plant at different times during the day and night. This arrangement gives the plant a steadier load of raw gas. Such cooperation is difficult to obtain, however, because it is only natural that lease operators would prefer to pump their wells in the day time.

Whenever the gas volumes become extremely low and the gasoline content of the gas runs 10 gallons or more per thousand standard cubic feet, the amount of residue gas left after plant extraction sometimes is hardly enough to run the engines at the gasoline plant. In such fields it is necessary either to buy residue gas from some other field, or to resort to the use of Diesel engines and oil-fired boilers. The propane and butane fractions from these plants are usually carbureted with air and used as fuel in the field, this practice being more economical than that of selling those fractions in tank car lots to some distant market.

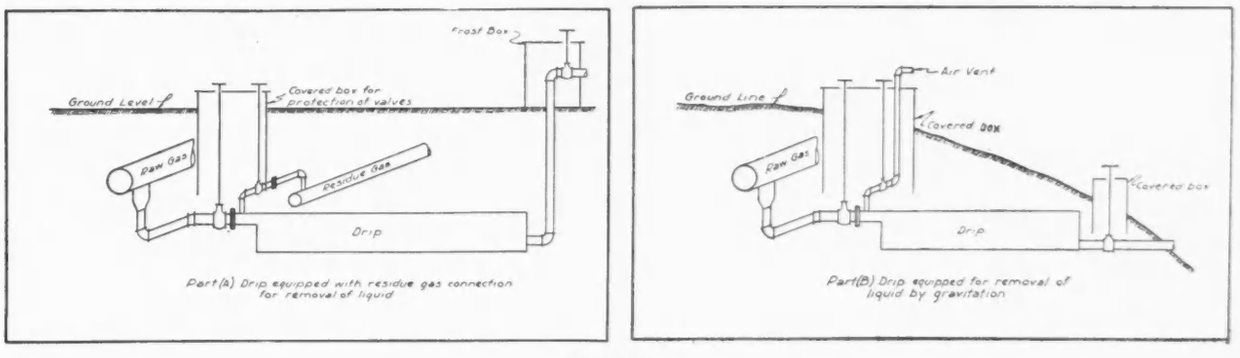


FIGURE 4

Diagrammatic drawings of two types of drip assemblies.

Gas wastage may be minimized and wasteful producing practices corrected by a more thorough study of all producing conditions in each new field, followed by the adoption of a properly engineered co-operative program among operators to conserve the available gas energy in the reservoir

GAS UTILIZATION OR THE

Conservation of Gas

ENERGY IN FLOWING WELLS

By E. O. BUCK, Consulting Petroleum Engineer

MANY articles, publications and text books have been written on the subject of gas utilization and conservation. Theses publications in outlining the importance of gas utilization in flowing wells have made the term "gas-oil ratio" a by-word in the oil industry, yet millions of cubic feet of gas are produced daily without serious concern as to what effect this gas production is having on the producing reservoir, or the amount of oil expected to be ultimately produced.

There are many factors to be considered in gas regulation, and each one has its importance, if true gas conservation is to be considered. The writer has listed what he considers the most vital factors to be considered in gas conservation, and a brief outline of the reasons for their consideration. The list is given in the order of their importance, according to the writer's interpretation.

1. Type of reservoir.
2. The amount of gas saturation in the oil at reservoir pressures and temperatures.
3. The chemical analyses of the gas.
4. The saturation pressure of the gas in the oil.
5. The original reservoir pressure.
6. The presence, if any, of free gas in the reservoir.
7. The liberation pressure of the dissolved gas.
8. The rate of pressure decline in the reservoir per million barrels of oil produced.
9. The daily rate of flow from the reservoir.
10. The proper spacing of the wells.
11. The mechanical completion of the wells.
    (a) Casing setting.
    (b) Tubing setting.
12. The daily rate of production from the individual well to obtain the most efficient gas-oil ratio.

Ascertaining the type of the producing reservoir, in the opinion of the writer, should be the first step in gas utilization. By type reservoir is meant the physical characteristics of the reservoir, whether the oil is produced from a sand, lime, dolomite, cap-rock or granite-wash; and whether the reservoir receives its producing energy from gas expansion, water drive or a combination of these two forces. The size and shape of the structure, and the nature of the producing horizon should also be considered. All these factors must first be determined before any constructive program can be inaugurated in gas conservation. The thickness, porosity and permeability of the producing horizon should be known so the engineer and geologist will have the necessary data to develop the property, and obtain the maximum amount of oil with a minimum of gas wastage. Thus, it is vitally important that the type of the reservoir be determined before any final program of development is undertaken.

The amount of gas saturated in the oil at reservoir pressures and temperatures should next be considered. The occurrence of this gas, whether it is occluded or included, has a definite bearing on the behavior of the gas under various rates of flow and pressure changes.

Ben E. Lindsly, senior petroleum engineer for the United States Bureau of Mines, has recently published a bulletin of the bureau's study of a "bottom hole" sample from the Crescent pool in Oklahoma, with regards to liberation of gas, expansion of gas-oil mixture and energy relations involved in flow. Lindsly has given a description of the apparatus necessary for conducting these experiments and the importance of determining the amount of gas saturated in the oil at reservoir pressures and temperature. It is obvious that if any constructive gas conservation measures are to be considered, it is necessary to determine the amount of gas associated with the oil at reservoir temperatures and pressure.

The chemical composition of all gas must be known so that the particular properties of the gas can be determined.

The saturation pressure of the gas in the oil should be known to determine whether the oil is saturated, super-saturated, or under-saturated.

The original reservoir pressure should be measured and calculations be made on pressure decline as oil and gas are withdrawn from the reservoir.

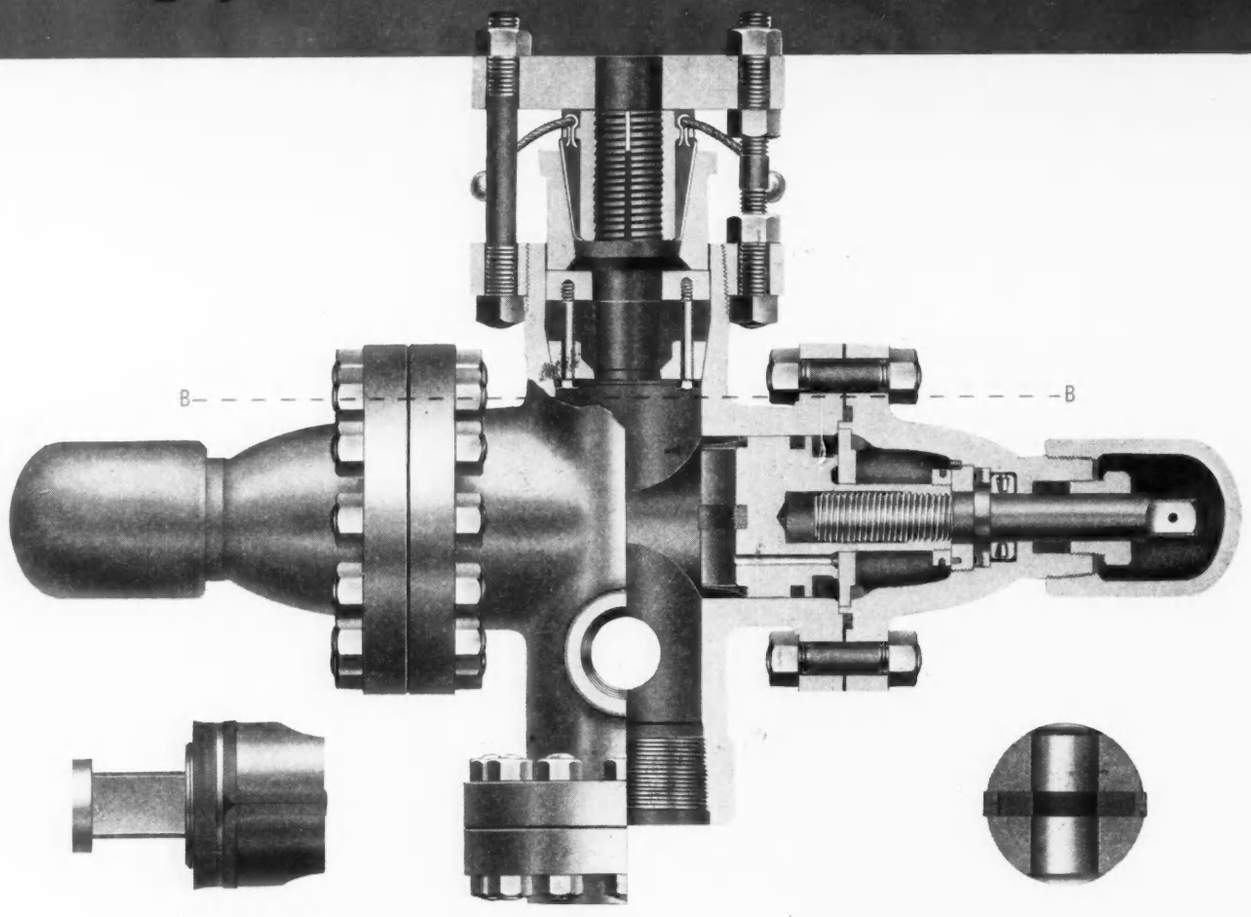
The presence, if any, of free gas in the reservoir should next be considered. This information is vitally important for well completions and calculations on the amount of oil that can be withdrawn from the reservoir without the production of excess gas.

The amount of gas liberated at various pressure

PRACTICAL INFORMATION FOR PRACTICAL MEN

On how to land your tubing so that, as production problems arise after completion (. . . and they will!), tubing may be moved or pulled with absolute safety, without killing the well. This method of running, suspending and sealing leaves you free to manipulate tubing to correct extravagant gas-oil ratio; run packer to make water shut-off; install kickoff collars, etc. No other method provides equal safety with equal flexibility in handling tubing in live wells.

Using THIS COMBINATION you are free to move or pull your tubing safely without killing your wells . . . . .



Glance at the cross-section drawing of the Cameron Master Control Tubing Head, above. Note that, *above the red line B-B,* a complete tubing head of conventional design is provided, including—(1) A tapered throat; (2) A tapered divided-seal; (3) A slip bowl; (4) Slips; (5) Tie-down flanges and bolts.

Below the red-line B-B, a regular Cameron Tubing Control Head, equipped with steel blowout preventer rams, is provided. When rams are closed, the annular space is sealed—relieving all well pressure below the divided-seal. Casing flow-line outlets may be located above or below the rams, as desired. If located above the rams, flow-line outlets are also relieved of pressure when the rams are closed.

Before drilling-in, the Cameron Master Control Tubing Head is made up on the oil string, and a Cameron Manually Operated Blowout Preventer, with rams to close on drill pipe, is flanged or nippled above. This provides complete protection against blowouts while drilling-in. Before running tubing, upper preventer is removed.

While running tubing, full blowout protection is provided by the steel rams of the Master Control Tubing Head. Tubing is suspended on slips and sealed by the divided-seal, above the rams of the head.

After well is completed, tubing may be moved safely at any time by the following procedure: (1) Close rams; (2) Vent space between rams and divided seal; (3) Remove tie-down flanges and bolts; (4) Raise tubing 3 feet and then lower it 3 feet, through the closed rams. This closes Cameron Tubing Plug on bottom of the string. (5) Vent tubing to relieve pressure; (6) If tubing is to be moved more than one joint, suspend tubing string on closed rams, and make up a Cameron Manually Operated Blowout Preventer above Cameron Master Control Tubing Head on well, so that collars on tubing may be passed.

Tubing may now be raised or lowered with complete safety, collars being passed between alternately opened and closed rams of upper and lower heads. Tubing may be opened at any time for gas-oil ratio tests, or closed at any time for further moving.

If tubing is to be pulled, the following procedure is used: (1) Screw or flange a gate valve above the Master Control Tubing Head; (2) Screw or flange lubricating nipple above Gate Valve; (3) Screw or flange Cameron Manually Operated Blowout Preventer above nipple; (4) If well pressure is greater than 500 or 600 pounds, arrange for tubing hold-down equipment for last few stands of tubing; (5) Now come out of the hole through closed rams of the upper preventer, closing rams of the Master Control Tubing Head only to pass collars. When Cameron Tubing Plug is above gate valve, valve may be closed; (6) To run tubing back in the hole, reverse the above procedure.

No other combination of equipment gives you the same safe, complete control over your producing wells as the Cameron Master Control Tubing Head used in connection with the Cameron Tubing Plug. With this equipment installed, you need never kill your wells to perform any operation necessary to correct producing conditions that are unsatisfactory. This is the same type and make of equipment used by pressure control experts to pull or run tubing into wells under pressure, and is the last word in safety, flexibility and ultimate economy to the user.

NO OTHER Combination of Equipment gives you this safe, complete control over your tubing after your well is on production

THE HEAD CLOSE THE RAMS AND YOU SEAL THE ANNULAR SPACE *BELOW* CASING OUTLETS

THE PLUG LOWER TUBING 3-FEET THRU CLOSED RAMS, AND YOU CLOSE TUBING STRING AT BOTTOM

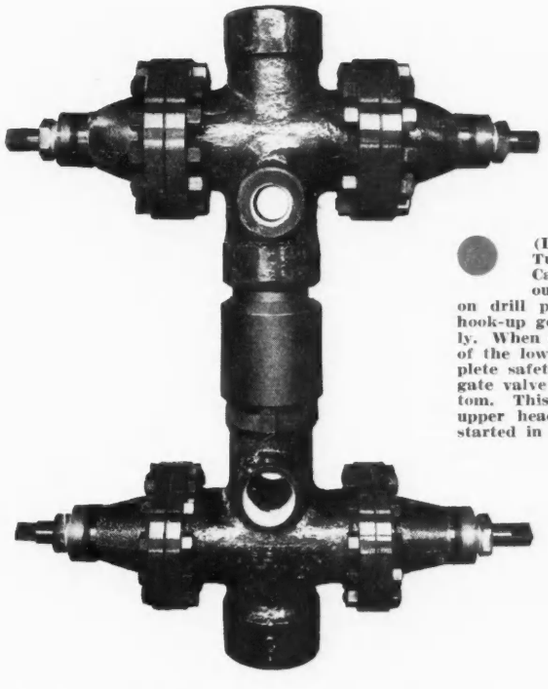
THEN: YOU ARE FREE TO MOVE OR PULL TUBING AS CONDITIONS REQUIRE

The Cameron Re-Setting Tubing Plug gives you the full equal of a *Tubing Master Gate on the bottom of your tubing.* The valve plug (colored red in the cross-section drawing to the right), may be opened or closed at will, from the surface. Plug valve remains closed when tubing is run. To open plug, lower tubing three feet below final setting point, then raise three feet and suspend on slips. Equalize tubing and casing pressure, and plug drops down and rests on rod-guide lock-nut. To close valve-plug, raise tubing three feet through closed rams of Master Control Tubing Head, then lower three feet. When tubing is lowered valve plug seat moves down with tubing until valve plug is seated. Well pressure holds valve plug against the seat.

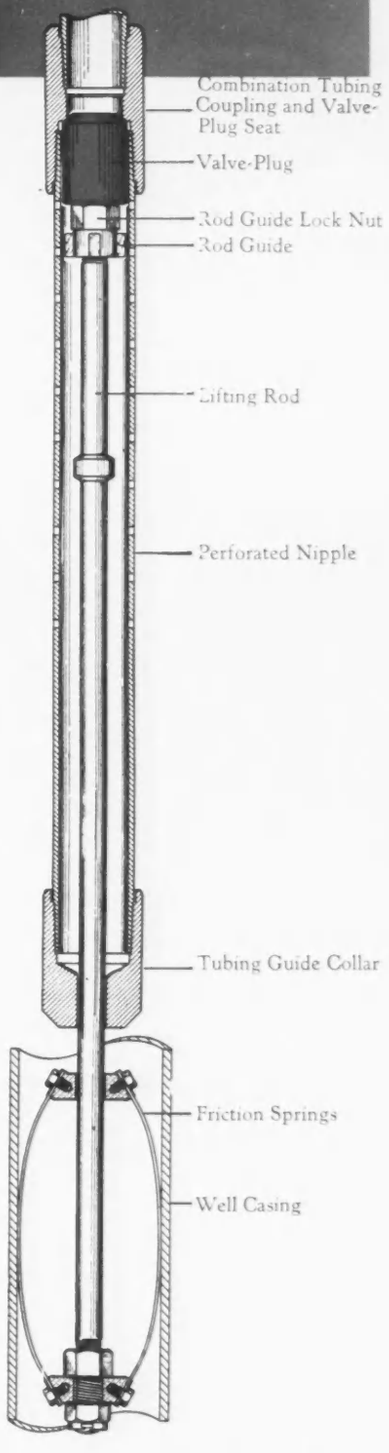
This device not only provides complete freedom to adjust your tubing level, but it also serves as an emergency Tubing Master Gate Valve—one that may be closed at any time should surface connections fail for any reason.

The combination of the Cameron Master Control Tubing Head and the Cameron Re-Setting Tubing Plug give you a degree of control, with complete safety under all conditions, not to be had from any other combination of equipment for the purpose.

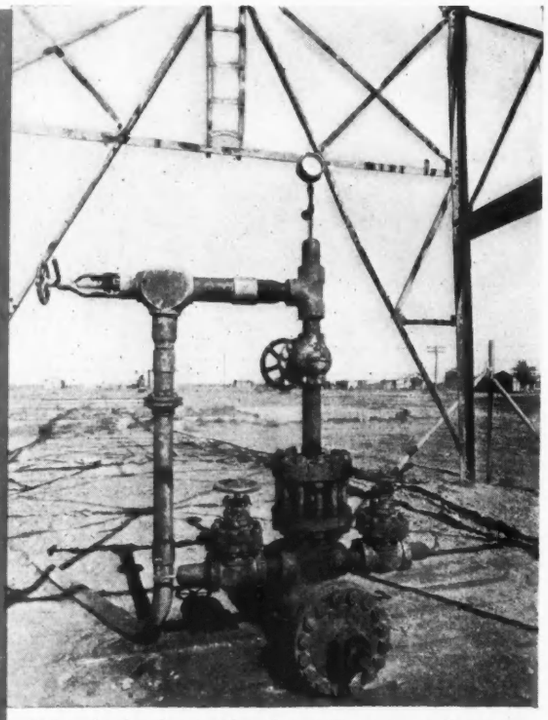
Write for full details, or request that one of our experienced field men give you full details. There is no obligation involved.



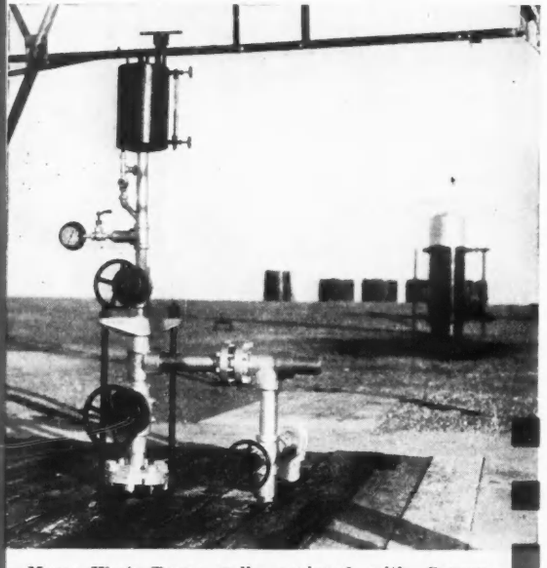
(LEFT) Cameron Master Control Tubing Head on oil string, with Cameron Manually Operated Blow-out Preventer, with rams to close on drill pipe, swaged above. This is the hook-up generally used for drilling-in safely. When drill pipe is out of the hole, rams of the lower head may be closed, for complete safety, around a joint of tubing with gate valve on top and tubing collar on bottom. This shuts well in completely until upper head is stripped off, and tubing is started in the hole.



(ABOVE) The Cameron Re-Setting Tubing Plug is rapidly being adopted throughout domestic oil fields because it provides complete control of the tubing—at the bottom of the string. By shutting-off tubing flow, it permits tubing to be raised, lowered or pulled with complete safety. It may be opened or closed quickly from the surface. It permits wells to be worked on without necessity of killing. Complete details will be furnished on request. Please mail coupon on following page.



Note simple, inexpensive Xmas Tree connections on this West Texas well. Elaborate connections are not needed because Master Control Tubing Head and Tubing Plug provide all essential control.



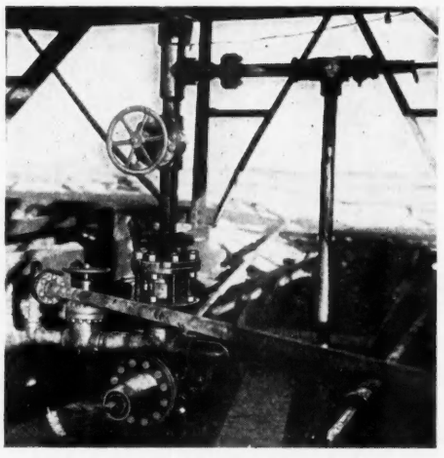
Many West Texas wells equipped with Cameron Master Control Tubing Heads have been entered under pressure to run packers to shut off water intrusion. This is one of them—and job was performed without killing.

CLIP THIS COUPON FOR FULL INFORMATION

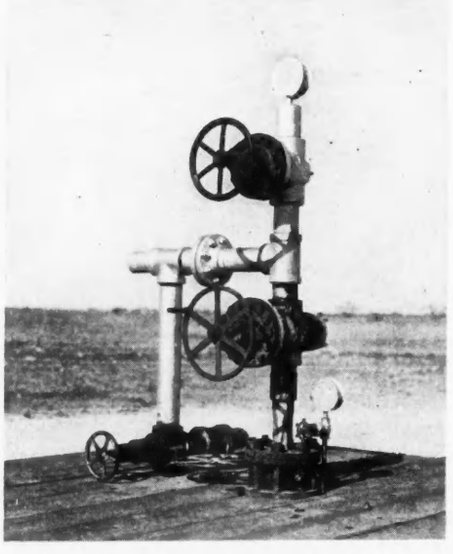
CAMERON IRON WORKS, Inc.

711 MILBY ST. HOUSTON, TEXAS

EXPORT OFFICE: 74 Trinity Place, New York, N. Y.
MIDLAND: W. P. (Red) Knight - - - - BEAUMONT: C. A. Muncey
OKLAHOMA AND KANSAS: Carson Machine & Supply Company



Completing a well with Cameron Master Control Tubing Head—which insures against the need of ever having to kill the well to correct unsatisfactory producing conditions.



A few extra dollars spent for real control head equipment greatly reduces the cost of Xmas Tree connections—as is clearly shown by this typical hook-up. Note elevator space between tubing collar and tie-down flange of Master Control Tubing Head.

CAMERON IRON WORKS, Inc.,
711 MILBY
HOUSTON, TEXAS

Gentlemen: Please forward complete details on advantages gained by using the combination of Cameron Master Control Tubing Head and the Cameron Re-Setting Tubing Plug. It is understood that no obligation is involved.

Name_____

Position_____

Firm_____

City_____ State_____

drops should be found. When the liberating pressures of the dissolved gas are known, the critical stages of pressure decline can be determined. The rate of pressure decline, controlled by daily production can be calculated to give the highest ultimate yield of oil before excessive gas liberation occurs in the producing horizon.

The daily rate of flow from the reservoir should be carefully computed by the pressure history and the behavior of the individual wells in the reservoir.

The size and the original content of the reservoir, and the amount of recoverable oil should be considered in determining the proper daily rate of withdrawal.

The proper spacing of wells should be next considered so that the reservoir will be efficiently and effectively drained with a minimum amount of well interference. The writer is of the opinion that some type of reservoirs, because of the presence of free gas, should have wide well spacing, and other types of reservoir where free gas is not present and the effects of an active hydrostatic head are not readily apparent, closer well spacing would naturally be preferable.

After these facts concerning any reservoir has been determined the mechanical completion of the well should be considered carefully. If there is a free gas cap present in the field, particular care should be taken in the setting of the casing. The oil string should in all cases be cemented below the gas-oil contact point, and all free gas, if possible, entirely cased off from the bottom of the producing string. The tubing should always be set as close to the bottom of the hole as possible to insure production from the oil zone.

The daily rate of flow from the individual well should next be studied and a rate of flow that will give an efficient gas-oil ratio be produced daily.

The daily withdrawal of oil from the individual well, if possible, should be maintained at a rate that will insure an oil fluid seal always present at the bottom of the flow string. If this can be accomplished teh control of gas-oil ratio will not offer any serious problem.

The writer is familiar with fields where gas-oil ratio control offers a serious production problem, where apparently there is very little, if any, uniformity between wells, and each individual well offers a separate problem in gas regulation. The writer believes that fields of this type could have been corrected if more concrete data had been obtained in the early stages of development. The production history from these reservoirs is too meager at the present time to permit any complete study and analysis of the actual conditions found originally in the reservoir, and in all probability the damage done to the reservoir by improper well completion and excessive withdrawals can not now be repaired.

The operator in the past has been too prone to consider his property as an inidividual producing unit rather than an intricate part of a complicated producing reservoir. A more thorough study made of all of the producing conditions found in newly producing oil fields and a cooperative program adopted to conserve the available gas energy in the reservoir, gas wastage will be minimized and wasteful producing practices now taking place in some fields will be corrected.

HEADED FOR ANOTHER

New High Record

During the year 1935, THE OIL WEEKLY established an editorial record for oil trade magazines by publishing more engineering and technical articles than it did during 1934, when it broke all previous existing marks. Now—it is well on its way toward raising this record to another new all-time peak level.

■ In the first six months of 1936, a total of 131 engineering or technical articles were published in THE OIL WEEKLY, an average of 22 per month. At this rate, we confidently predict that by the end of the year we will have broken our 1935 record of 246 engineering and technical articles. This record is more noteworthy in view of the restriction of THE OIL WEEKLY editorial content to production and pipe line articles alone. No other magazine is published exclusively for these divisions of the industry, yet none have equalled the above figures.

■ The 131 engineering and technical articles published so far in 1936 represent a well diversified list of subjects. There were 42 production articles, 34 drilling articles, 19 pipe line articles, 11 geological articles, and the remaining 15 were general engineering, crude reserve and natural gas articles.

■ The 131 articles have been written by 83 different authors, which lacks but 49 of tieing the number of production and pipe line operating men who contributed to THE OIL WEEKLY during the entire year 1935.

A Chart for Calculating Land Areas

By TOM W. BRINKLEY,
Tulsa, Oklahoma

DETERMINING the acreage of a tract of land by calculation often becomes a very tedious and irksome task. By the use of the nomogram shown, any size tract can be determined by a straight line, however, this nomogram is good only on square or rectangular tracts. The accuracy of the nomogram reproduced is limited because of its size.

The scales are equally spaced parallel lines constructed perpendicular to a base line and are graduated in logarithmic divisions. The outer scales being graduated for one cycle and the middle scale for two cycles. The middle scale is so placed that it will represent an answer equivalent to acres while the outer scales represent feet.

A single line drawn through any two points on two of the scales will give the remaining answer on the third scale, thus:

What is the acreage of a tract of land 1320 feet wide and 2640 feet long? On scale (b) draw a line from 1320 to 2640 on scale (a) the result will be found on the middle scale which is 80. In determining the decimal place a simple rule may be followed: For the total number of decimal shifts on the outer scales, shift the decimal point on the middle scale the same number of places.

Sometimes the number of acres are given in a square tract of land and you want to determine the length of a side. Construct a line perpendicular to the middle scale at the number representing the acres. The result will be found on the outer scales which will read the same. Example: What is the length of one side of a square tract of land containing 50 acres? The result 1475 feet will be found on the outer scales. Care must be taken in determining which 50 is to be used. Write the number down and point off in units of two until the number agrees to the number on the chart, thus: ,00,00,50. The number on the chart agreeing to the number of acres is the one you use.

If a tract of land 3500 feet long and 2000 feet wide contained 160.6 acres and you wanted the bottom 90 acres what would be the length of side (X)? Connect on scale (b) 2000 to 90 on the middle scale and read the answer on (a) scale which is 1962 feet. Since the number of decimal places on the middle scale will equal the total number of decimal places on the outer scales, the decimal place on scale (a) will be the difference between scale (b) and the middle scale.

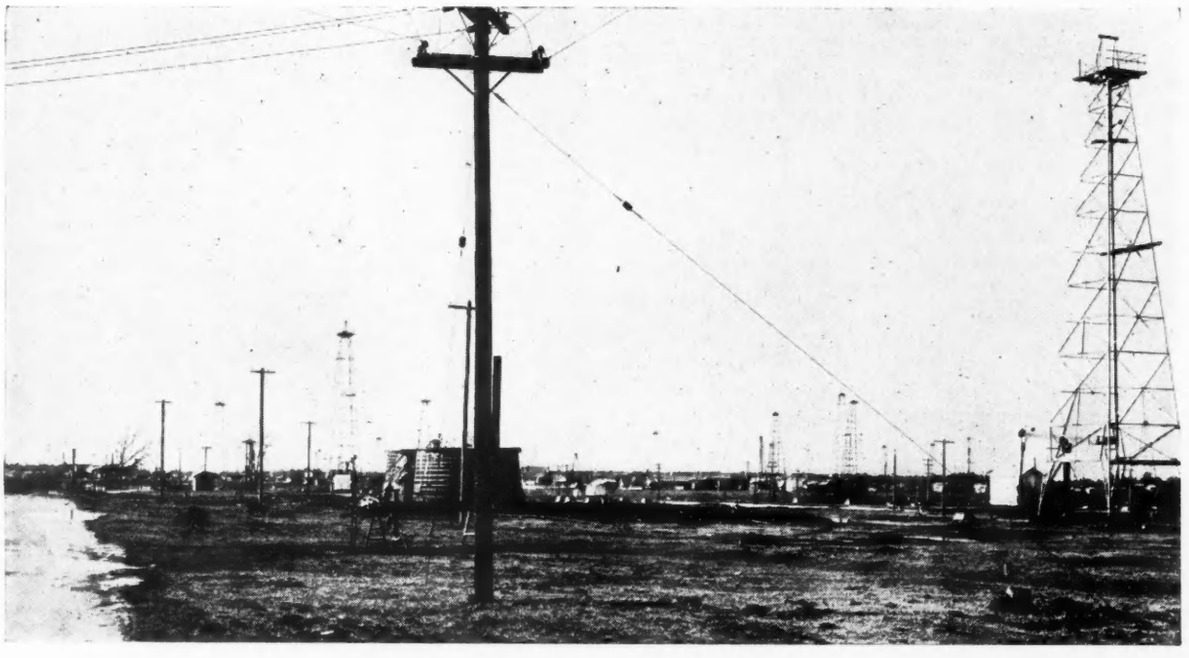
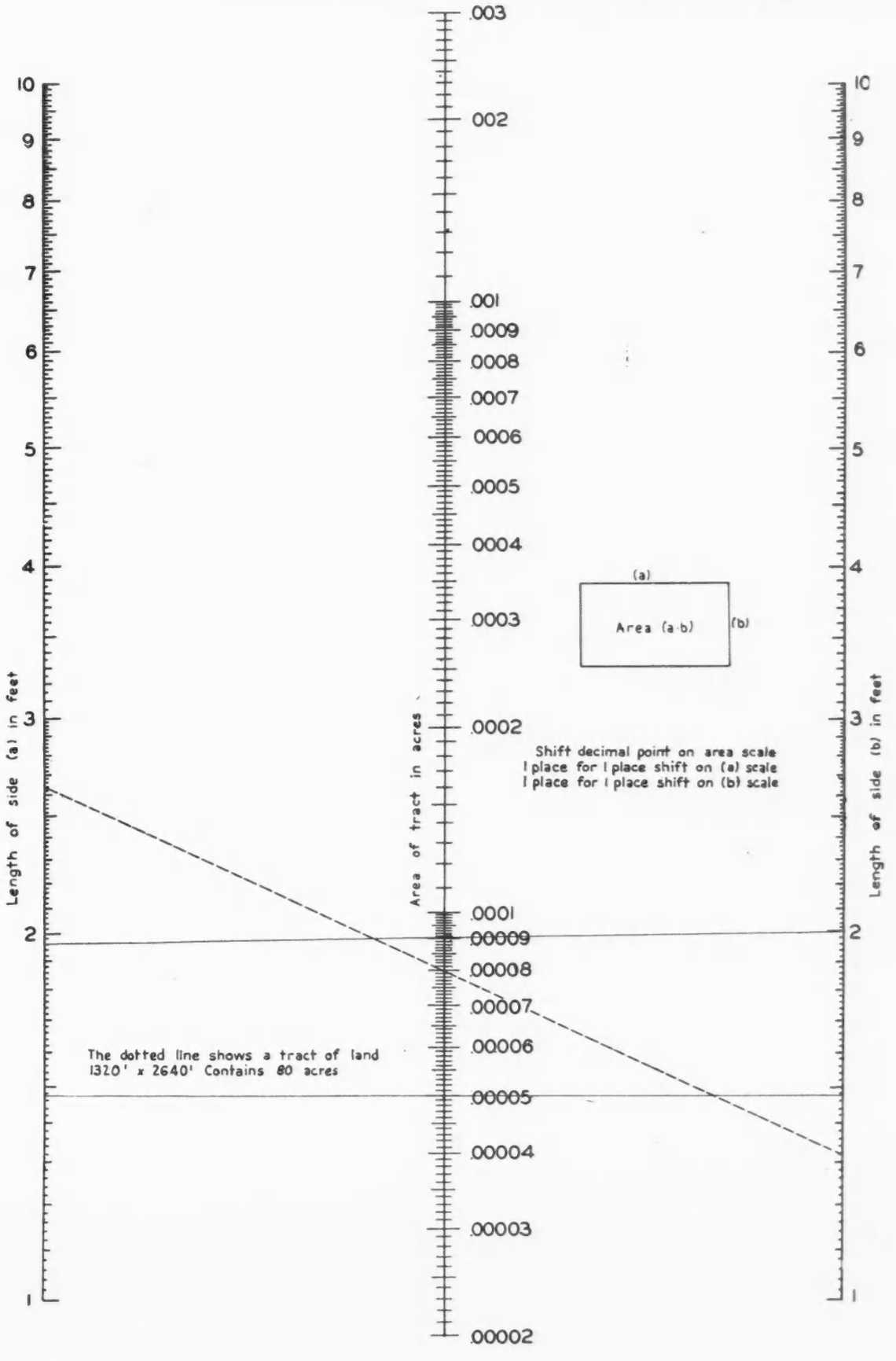


Chart for Calculating Land Areas

Copyright, 1936, by Tom W. Brinkley



Truck-Mounted Rotary

RIG HAS PROVED SUCCESSFUL IN DRILLING SHALLOW HOLES

By JOHN C. ALBRIGHT

HELMERICH & PAYNE, INC., drilling contractors, are using with success a light portable type of rotary drilling rig that has the unusual feature of being completely and permanently mounted on the chassis of a heavy-duty truck. In this manner, the truck is used both as the transportation as well as the foundation unit for the drilling rig. All parts of the rig, with the exception of the rotary table, are compactly located on the truck bed.

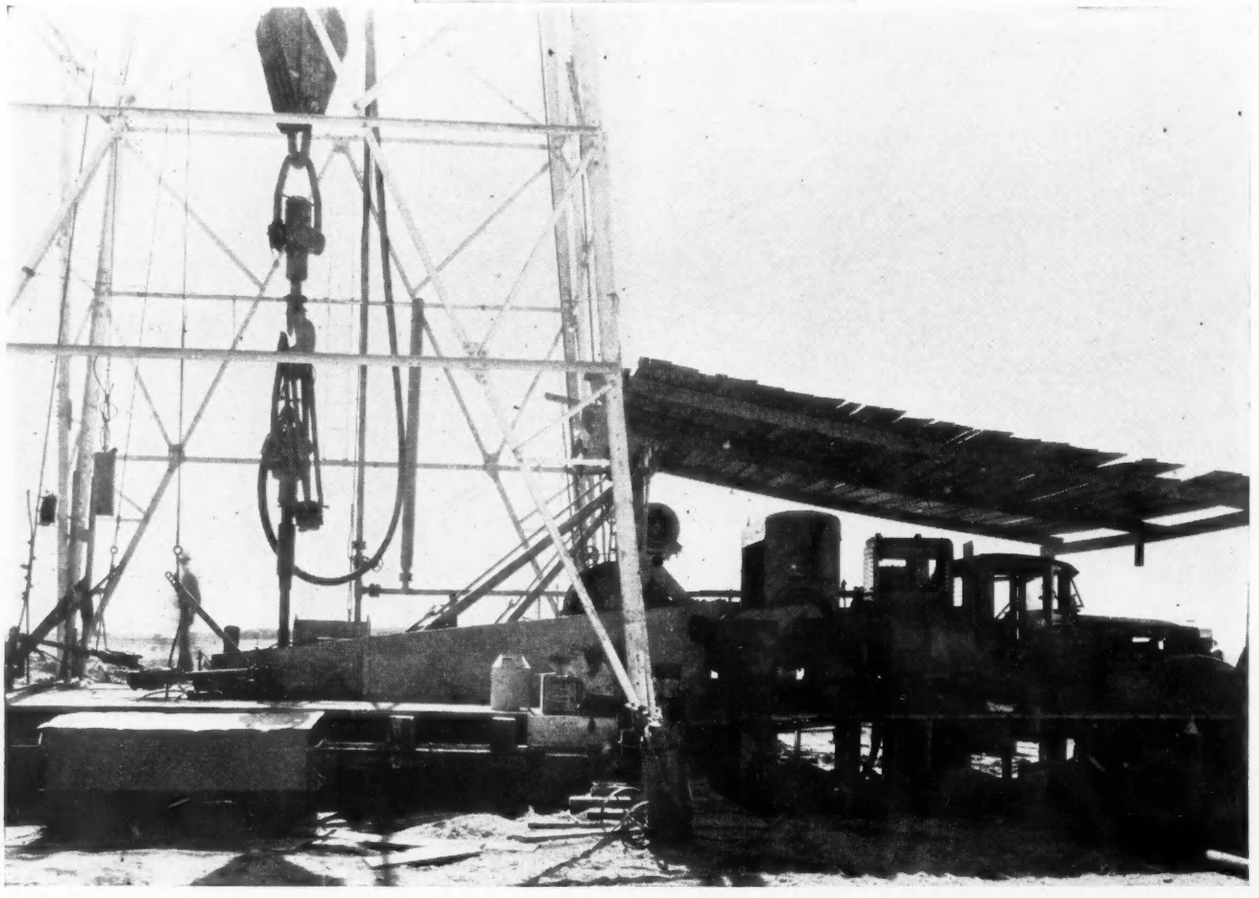
The first unit of this type, designed by Helmerich & Payne, was built about two years ago after much study and deliberation. Naturally, it was thought that in pioneering such a rig a number of "bugs" would have to be worked out before the rig would operate successfully and profitably. The fact that no "bugs" of consequence were found is shown by the fact that the first unit recently has completed its twenty-sixth hole without the necessity of changing any of the original equipment. Subsequent units have been refined somewhat, but the basic design of the first rig still remains.

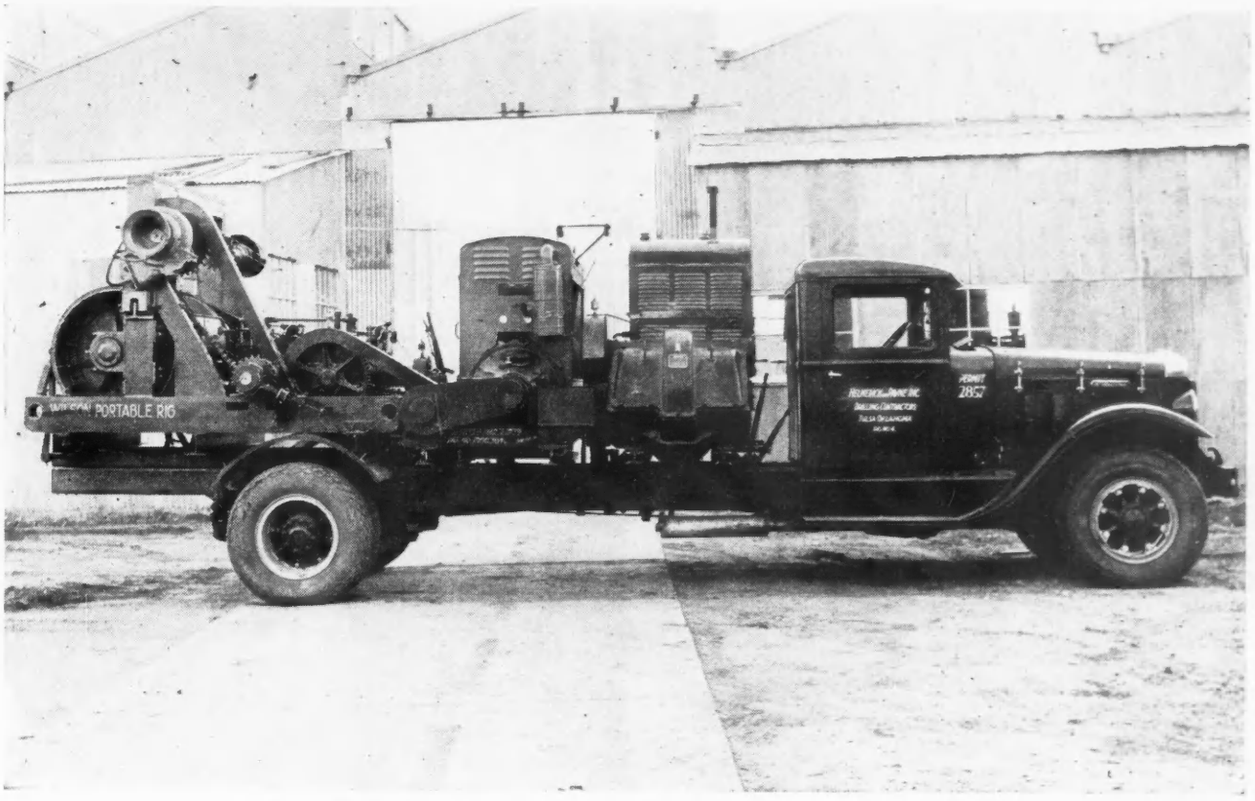
Helmerich and Payne's rig in which the draw works, mud pump and all prime movers are mounted on the truck bed.

Operation and Design

In building one of these rigs, a power take-off is installed on the truck drive shaft, so that the truck motor can be used to drive the slush pump, which is installed directly behind the drivers' cab and crosswise of the chassis bed to conserve space. The control levers that operate the power take-off transmission-unit are between the pump and the cab, where the driller can use them without hinderance. When going into or coming out of the hole with pipe, it is possible, through additional clutches, to change the power transmission take-off so that the truck engine will assist the drilling motor of the rig.

The vertical multi-cylinder





Helmerich & Payne, Inc., truck-mounted rotary as it appears on the highway.

gas/gasoline engine is an integral part of the drilling unit. It is placed upon a sub-frame that also supports the draw works and other equipment. The engine rests cross-wise of the truck bed next to the slush pump. While drilling, the truck motor operates the slush pump independently of the vertical drilling engine and the latter runs the rotary table through a transmission case, sprockets and chains.

When the rig is moved from one location to another, it is only necessary to disconnect the rotary table chain, the drilling line, mud pump hose and the stand pipe line before the truck is ready to move. When it reaches the next drilling site, if the derrick is up, it is easy to reverse the above procedure and start drilling. The truck is backed up to the derrick floor on the proper side. The rear end of the truck, which carries the draw works, is blocked up with cribbing to secure stability, and the few rigging up connections are made. The weight of the truck, plus the equipment load, is not so great that it does not pass all highway requirements.

The rig is self-sufficient when ordinary drilling conditions are encountered, but when it is necessary to drill a hole larger than standard, more circulation is required than that furnished by the relatively small slush pump on the truck. When this condition arises, a "floating" slush pump (one that is self contained in itself by being mounted upon a frame with its individual gas/gasoline engine) is used. One of these units is maintained in serviceable condition, so it can be dispatched quickly to the location if needed. The "floating" pump discharges into the standpipe of the rig, where the mud from both pumps enters a common rotary hose.

The gas/gasoline vertical engine is equipped with an ordinary carburetor, a natural gas mixing valve and regulators, heat exchangers and special carburetors to handle the liquefied petroleum gases.

A variety of fuel has been used for these portable drilling units, including natural gas, ordinary gasoline and gasoline plant stabilizer tops (mostly butane). When butane is used to operate the engines, a 4000-gallon pressure tank is set at the well, and the fuel hauled from the nearest available source. The cost of operation is about the same whether regular gasoline or butane is used. Approximately 200 gallons of regular gasoline are required for each 24 hours of operation. With gasoline used, usual lubrication practices are followed, that is crankcase pumps are depended upon to put the oil where it is needed. However, with natural gas or butane, top cylinder lubrication apparently is needed because of the dryness of the compression rings and the head of the pistons.

Every precaution has been taken to eliminate shut downs. The bearings used were selected because they will interchange with those on popular heavy-duty farm equipment, thus making them obtainable at any agricultural supply store. The chains used are also of this type.

The first unit of this type has had its truck engine overhauled completely twice since it was placed in service, and has had two additional top head overhauls, including valve grinding and carbon removal. The time selected for doing this work is when surface pipe has been landed and the rig is shut down waiting on cement to set. In this way the work is accomplished without delaying drilling operations.

Care and Operation of Spudding Machines

By J. P. WITHERSPOON, Drilling Department,
Texas Pacific Coal and Oil Company

SPUDDING machines are adaptable to a wide variety of oil field usage. They are built to drill 5000 feet and to clean out at 6000 feet. Due to low initial cost, and economy of operation and maintenance, they are doing work in nearly every oil field in the world.

Spudders have had their greatest success drilling or cleaning out wells in bad caving formations, such as shale or loose sand. They are equally adept to drilling extremely hard or alternate hard and soft formations. These machines are used for drilling in and cleaning out after the rotary, by the addition of a spudder any rotary is converted into a combination rig. They are used as a general maintenance machine on the lease, especially where it is necessary to do some bailing or cleaning out when the tubing is pulled, or for cleaning out wells before putting them on the pump. When properly equipped with shear poles the spudder will handle long strings of casing very nicely. When so equipped they are successful in meeting emergencies, and for plugging dry holes or old wells. The spudder furnishes portable draw works and beams for standard cable tool rigs.

Selection Is Important

Selecting the correct size machine for the work to be required of it, is of first importance to successful operation. The manufacturer's specifications are used for the most economical results. The machine's capacity has been rated by the best of engineering service and long study of the machines in practical service. All makes of spudders will carry from 10 to 20 percent overload, but overloading, as with any other machinery, will not afford the greatest economy.

The correct power unit is as essential as the right machine. Combustion motors are generally used for greater ease and service. Due to the variable factor between the power unit and the machine it is impractical to attempt any set scale for power requirements. Engines that will make 1200 revolutions per minute or better, and that have power to hoist rapidly give the best results.

Short light strings of drilling tools are essential. There are two important reasons for this. First, the quick releasing action, or down stroke, of the spudder is the principle drilling feature; heavy tools are not necessary. Second, the weight of the beam and header, plus any weight added to the beams, is the only balance there is to offset the weight of the drilling tools and cable. Therefore heavy drilling tools put an excessive strain on the machine, and an overload on the power unit. The mast presents an obvious reason for short strings of tools, there is not room for clearance on most machines.

The small cable drums and sheaves, on the spudder, are essential to reduce the torque on the shafting. But this feature of construction causes an excessive amount of bending on the cables, hence the smaller the cables the better they fit the machine. The light tools used do not require large lines and the springs on the header sheave absorb the shock and jerk on the cables. This permits small cables to give long service. For wells up to 2000 feet deep a ⅝-inch drilling cable and a ⅜-inch bailing cable; for all wells deeper than 2000 feet a ¾-inch drilling cable and a 9/16-inch bailing cable, give the best service and save the machine.

Shear poles are absolutely necessary for deep wells, in order to handle the casing. The most popular type of these poles is made by placing 6¼-inch casing inside of 8⅛-inch casing. They are made long enough to reach 6 to 8 feet above the mast. The crown is made of 10-inch I-beam steel with a 3½-inch shaft for the sheaves. The crown is 5½ feet long and fitted at each end with pup legs made from 10-inch casing, the pup legs are 3 feet long. These are to fit over the poles and hold the crown in place and brace the entire set. One 16-inch by 16-inch by 14 foot timber makes a base. The base is placed 2 feet from the well towards the machine, and fitted with cleats or hinges at each end to hold the poles in place. This style of shear poles will handle 5000 feet of 6¼-inch casing.

Experience Aids Drillers

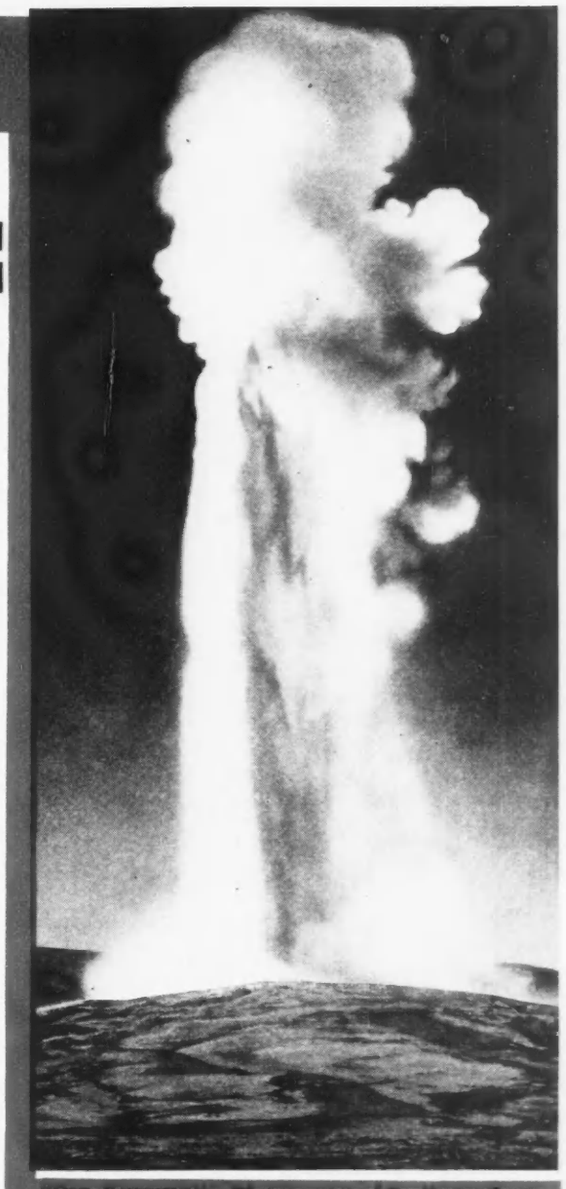
In the actual operation of the spudder, well-trained and experienced drillers are essential to success. The operation of these machines is different from the operation of any other type of cable tool equipment. Drillers who have been accustomed to running standard rigs with manila cable usually change to the spudder very easily, otherwise it is a difficult trade to learn. The driller on the spudder must drill entirely by the jar on the cable. Should he attempt to use the reactions of the machine or power unit he will be in serious difficulty on a deep well. This jar is different from that on any other drilling equipment. The springs on the spudding header absorb the shock, and the cable is free from the tools to the drum. This leaves a situation that requires a well-trained driller to understand. The tool dressers should be carefully instructed in the care of the

DEPENDABLE

GREEN SIGNIFIES SAFETY

LAY-SET PREFORMED GREEN STRAND ROTARY LINES—six words that literally hundreds of drillers know mean: *dependability.* . . . A line of real stamina—ample capacity for the job ahead.

From the time you string your LAY-SET Preformed to the time its work is done, the job is easier; you save time, cut expenses, get faster round trips, gain better all-around results. LAY-SET Preformed almost refuses to whip even at high speeds; resists kinking; spools evenly and tightly at any speed or any load.



"OLD FAITHFUL"—*Photo courtesy of Burlington Route*

By far the majority of LAY-SET Preformed Rotary Lines are used by the big operators who buy only the most dependable equipment. More and more the small, independent operators are learning the buying wisdom of the "big fellows"—and specifying LAY-SET Preformed too.

HAZARD WIRE ROPE COMPANY
WILKES-BARRE, PENNSYLVANIA
An Associate Company of American Chain Company, Inc.

IN BUSINESS FOR YOUR SAFETY
Branches or Distributors in all Oil Field Centers

LAY-SET *Preformed* Rotary Lines

ALL HAZARD WIRE ROPES MADE OF IMPROVED PLOW STEEL ARE IDENTIFIED BY THE GREEN STRAND

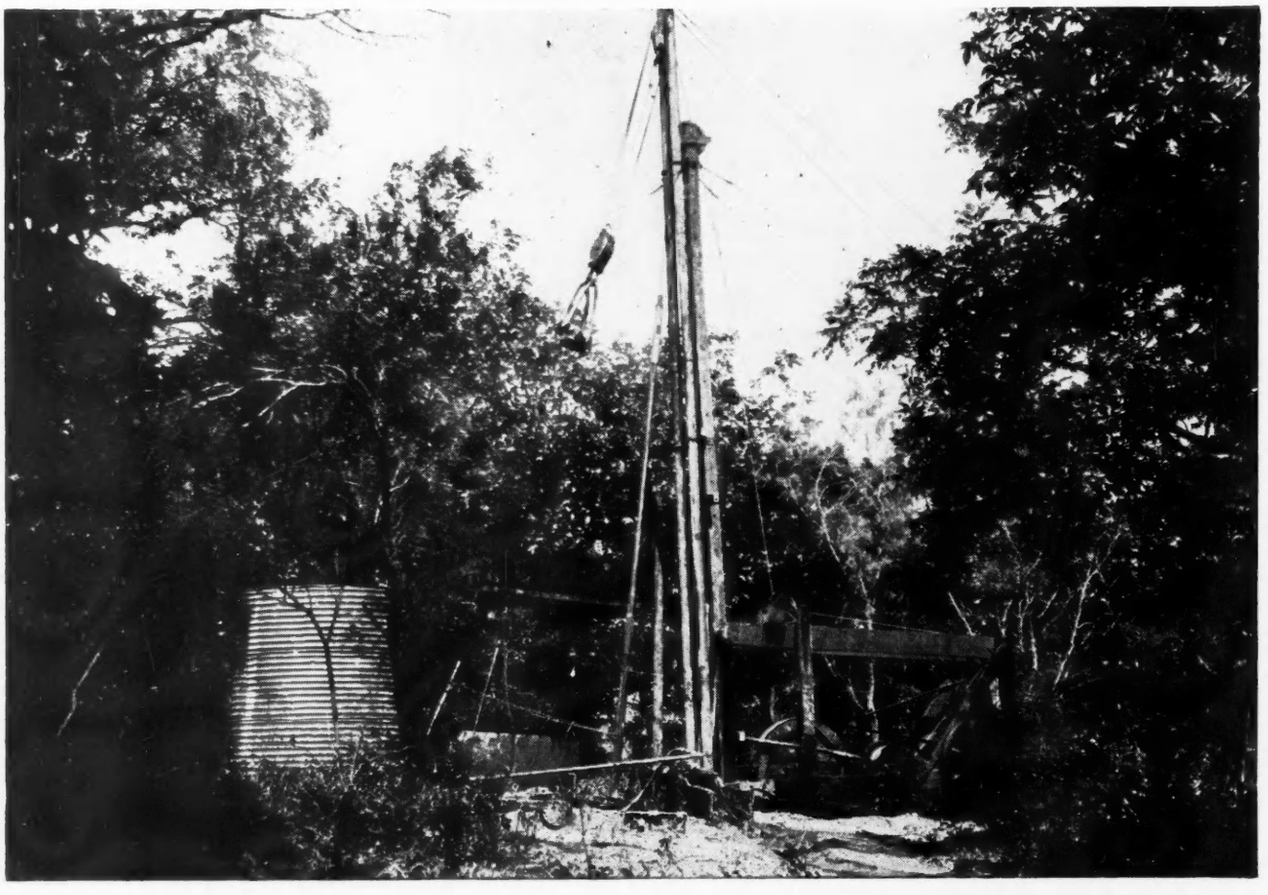
machine. If they have had the care and operation of high speed machinery they will be better prepared to care for the spudder.

Care of Machines

There are a number of popular rules for spudder operation. Never use excessive blocking or cribbing when setting the machine up. Place the drilling end of the machine, all sizes, five feet from the center of the well; one 16-inch by 16-inch by 12-foot timber is sufficient foundation here. Then raise the remainder of the machine to comply with this. Never spud nor bail over a coil of cable on the drums. Run down to the drum and spud or begin bailing with one-fourth to a full coil, never any more nor less. To raise the drilling tools, while in operation, pull the hoisting clutch just as the pitmans pass down center and start upward, releasing just before they pass top center. The tools can be lowered at any time. Never set a jack or any solid blocking under the sides of the machine. The strain on a machine is always upward, and to place anything solid under the sides of the frame is similar to breaking a stick over one's knee. Add weight to the beams only when the weight of the cable and tools is excessive, causing undue strain on the machine and an overload on the power unit. Before doing this be sure that neither belt nor the spudding clutch is slipping and that the tools are not sticking. Never lower the drilling tools to the bottom of the well, with slack in the cable, and then start spudding. Take a tension on the tools and start spudding slowly and smoothly. Keep a set of wire line drilling clamps suspended from the mast or shear poles and clamp up the lines to pull over slack from the reserve side of the drums. Never run slack in the well as this is very dangerous.

Spudders should be regarded as light, high-speed machines and must be cared for as such. Adequate lubrication is essential, machines should be lubricated two times each eight hours of operation. All excess lubricants and other grease and dirt should be removed and the machine kept clean. All bolts, nuts, pins, keys, belts, chains and braces should be inspected regularly and kept tight. When any of these parts become worn or broken they should be replaced immediately. The clutches, gears, brakes and frictions must be kept in alignment and properly adjusted. The attempt to use worn or makeshift parts will always prove disastrous. The spudding arms, pitmans, should be kept closely fitted at each end. To allow these to bump will ruin the whole arm. If they are well kept the bearings can be replaced when worn out. The trusses along the sides of the machine must be kept tight and evenly adjusted. These trusses keep down vibration throughout the entire machine. Never cut new friction wheels into two parts to put them on, to cut a new friction wheel in two is to half wear it out. When storing a spudder it should be well cleaned and lubricated. It should be stored inside, when this is not practical, the belts should be removed and put away. The clutches, frictions, and band wheel should be well covered. When properly cared for the spudder will give many years of satisfactory, economical service.

A spudding machine in a South Texas shallow field



Markets Stronger

STRICT CONTROL AND LARGE DEMAND STRENGTHEN PRICES

THE markets continued firm during the past week, as demand was strong, with consumption heavy and with large volumes of business expected during the Independence Day holiday period. There was further elimination of price shading on tank car lots of gasoline, and some refiners were talking higher prices but the quotations remained generally unchanged from the levels of the past several weeks.

While this situation for gasoline was not materially different from that previously prevailing, there were increased inquiries on the light fuel oils for delivery in August and September, and although little buying was reported, there seemed to be less buyers' resistance to the currently quoted prices. In the meantime, the kerosene market has continued easy, and in the Oklahoma region there was last week a further sagging of prices.

Outlook Generally Favorable

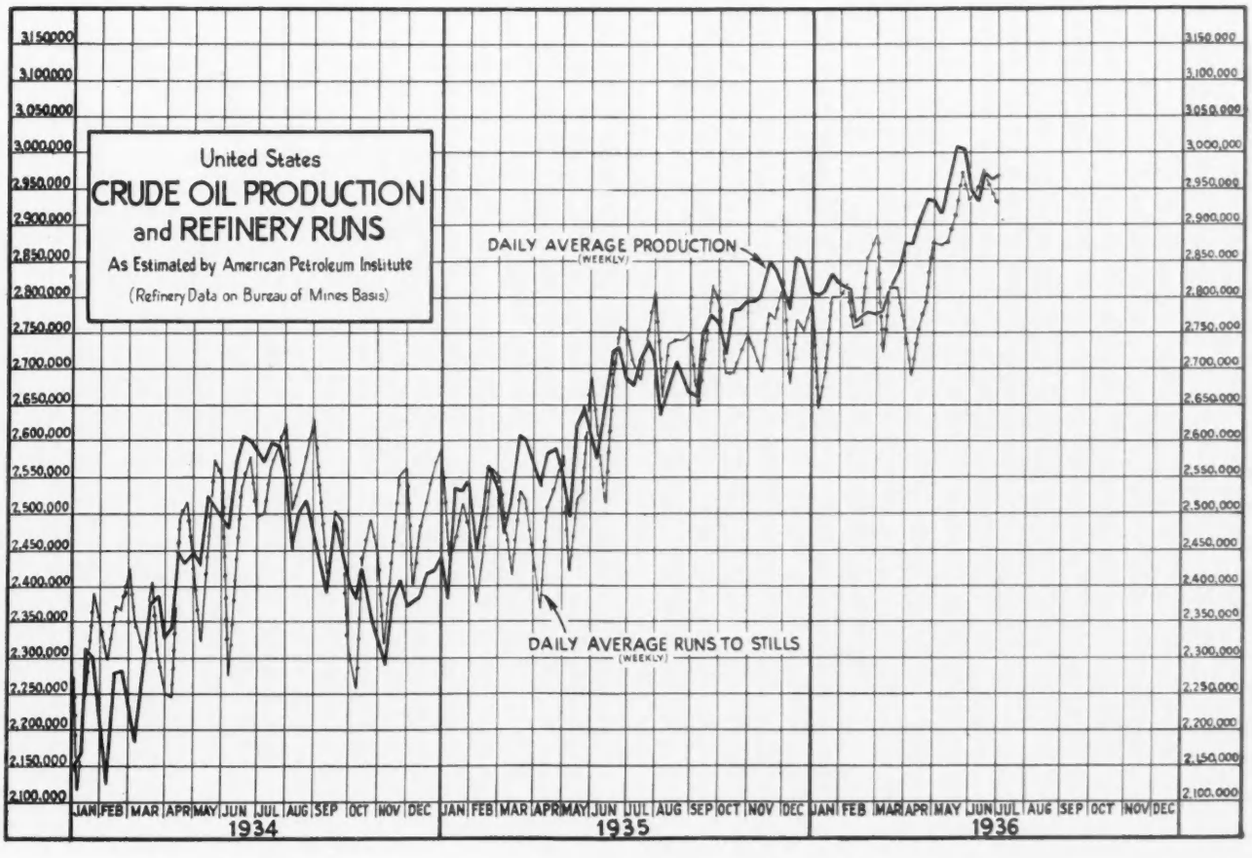
The general market outlook is distinctly favorable meanwhile, because of the effective control of crude production in prospect at least until the end of July. Under the allowables in effect in the leading producing states of the Mid-Continent, it is assured that crude output will be closely balanced with demand during the month.

In the meantime, further progress is being made in reducing gasoline stocks. During the week ended June 27 the total stocks of finished and unfinished gasoline were reduced about 800,000 barrels, according to the American Petroleum Institute, and in the whole month of June withdrawals aggregated about 2,500,000 barrels. Although gasoline stocks are substantially higher than at this time last year, the demand also is running considerably higher. The head of one large company has indicated he does not consider the present inventories too high, pointing out that a large proportion of the stocks are working stocks and therefore are not available for sale to the consumers. Similar views have been expressed also by others. A refiner in Kansas is credited with a prediction that there will be a shortage of gasoline in that state if consumption in harvesting and regular purposes continues at the present high levels.

Higher Crude Prices Talked

The crude oil markets naturally are firm, because of the strict allowables now in effect. There is even some talk again of a possible crude price advance in the Mid-Continent. In East Texas, where production was cut back materially June 21, under the new proration order, the producers are entertaining hopes of an increase of 25 cents a barrel, or to $1.40 from the present posting of $1.15 a barrel.

However, more conservative observers are doubtful if another crude price advance will materialize. They take the attitude that the present strict control should be considered successful from a market standpoint if it only holds prices where they are. It is obvious that the present strict balancing of supply with demand is being achieved only with considerable difficulty and through exceptional harmony and cooperation among the different producing states. Potential production is great, and any weakening of the present control might quickly lead to serious weakening of the present price structure. Some authorities take the



view, therefore, that raising of crude prices now would only stimulate drilling and cause a further strain on the controls now prevailing.

Mid-Continent Prices Same

In the Oklahoma market, U. S. motor gasoline continued last week to be priced as follows f.o.b. refineries: 62 octane and below, 4¾ to 5 cents a gallon; 63 to 67 octane, 5⅜ to 5⅝ cents; and 68 to 70 octane, 6 to 6⅛ cents. In the Chicago market corresponding prices were: 4¾ to 5 cents, 5 to 5½ cents, and 5⅝ to 6 cents. In East Texas the fully tendered third grade gasoline remained at 4¾ to 4⅞ cents, although lower prices prevailed on state tendered material moving by rail intra-state and untendered gasoline moving by truck.

In the Chicago market kerosene prices held at the same levels as in the previous week, the 41-43 water white grade at 3½ to 3¾ cents and the 42-44 water white grade at 3¾ to 4 cents. Minimum kerosene prices f.o.b. Oklahoma refineries were down an eighth cent, however, with the 41-43 water white grade at 3⅝ to 3⅞ cents and the 42-44 water white grade at 3⅞ to 4⅛ cents.

East Texas Tank Car Shipments

Week Ending June 28, 1936

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	585	4,749,846
Fuel Oil	278	2,652,125
Casinghead Gasoline	255	2,118,210
Topped Crude	44	390,012
Distillate	35	281,481
Kerosene	19	154,840
Gas Oil	18	147,729
Naphtha	13	105,569
Residuum	6	50,547
Total	1,254	10,650,349
Total Previous Week	1,108	9,307,936
Intrastate	428	.....
Coastwise	425	.....
Interstate	401	.....
Total	1,254	.....

OKLAHOMA MART

Expect oil price to hold through summer months

EVIDENCE will be heard July 14 by the Oklahoma Corporation Commission to raise the allowable for the state from the 526,175 barrels written as an order July 1. British American Oil Producing Company filed the petition on the pleading that a market exists for more oil than the order specifies.

Actual June production, when the order of the commission was for 524,875 barrels daily, rounded out to give the state close to 550,000 barrels daily.

The commission's order for July sets the output at 526,175 barrels daily against an estimate of the Bureau of Mines of 569,800 barrels. If production for this month keeps its June ratio above the order of the state commission, the end of the month will find Oklahoma well under what the federal bureau considers proper production but well above what the state regulatory body considers adequate.

Hope of holding field output near the figure set in the July order lies in the tapering off of the drilling campaign of the north extension of the Oklahoma City pool.

In the Kansas field output was kept close to the figure set by the state order. The order for July sets production there at 151,629 barrels against an estimate of 164,200 barrels by the Bureau of Mines. Kansas' output stuck close to its 151,000 barrels daily in June and indications are that it will be held close to the figure set for July.

In Oklahoma the producing fraternity holds the opinion that crude oil prices will not be reduced between July 4 and Labor Day, the peak of the gasoline consumption curve. At the same time there is a fear that a price slash will come if October 1 finds the output of the nation still around 3,000,000 barrels daily.

Speculation as to the turn of events around October 1, producers are wondering about the status of the Mid-Continent area with their own output curtailed to below Bureau of Mines estimates if not down to orders of their own conservation bodies and with the output of the nation around the 3,000,000-barrel figure due to increases in other states. Texas, Oklahoma and Kansas have taken the lead in writing orders to get output below the federal estimate.

If that condition continues it will mean that a slice of the market for crude oil has gone elsewhere. Since there is enough Mid-Continent oil to meet the federal estimates month after month and reserve to spare, getting actual production down to what a state conservation body specifies in an order is no simple accomplishment.

Withdrawals from gasoline stocks in the latter half of June is one fact that producers view hopefully. Mid-Continent refiners did not go into gasoline stocks in June to an amount to match the withdrawals from other sections. At that, they did get into reserves, and the last week of June found them using all of current refinery runs to fill current orders.

Tank car prices have failed to reflect withdrawals from stocks. At the end of last week they were identical with the week previous. Group 3 prices on third grade gasoline of 62 octane and below sold from 4¾ to 5 cents a gallon. Material of octane rating between 63 and 67 had a price range of 5⅜ cents to 5⅝ cents. The 68-70 octane range material sold at 6 and 6⅛ cents per gallon.

PLANS SMALL REFINERY

Intention to erect a small crude oil refinery in the near future in southern Alberta, was announced by P. L. Hyde, Calgary, president of Hydro Pet. Oils, Limited. The plant will have a capacity of 200 barrels a day. Its location will be decided upon following a survey of the districts surrounding Vulcan, Olds, Three Hills and Beiseker.

The plant will be erected by the North West Engineering Company of Regina.

Summary of Wells Completed in the United States Week Ending July 4, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this Date 1935
Alabama	....	....	....	....	.....	2	3
Arkansas	3	....	....	3	.....	45	86
California	18	16	2	....	3,700	533	413
Colorado	....	....	....	....	.....	6	6
Illinois	....	....	....	....	.....	4	9
Indiana	....	....	....	....	.....	121	92
Kansas	45	33	1	11	32,363	806	708
Kentucky	....	....	....	....	.....	125	85
Louisiana	16	13	....	3	16,787	535	388
Michigan	10	4	3	3	425	383	233
Mississippi	1	....	....	1	.....	5	12
Montana	5	3	1	1	199	67	61
New Mexico	14	12	....	2	16,296	282	143
New York	....	....	....	....	.....	....	....
Ohio	25	8	11	6	83	935	735
Oklahoma	73	60	3	10	322,558	1,462	1,198
Pennsylvania	....	....	....	....	.....	....	70
Texas	232	169	5	58	276,118	6,281	6,154
Utah	....	....	....	....	.....	....	....
West Virginia	12	....	7	5	.....	358	253
Wyoming	1	1	....	....	288	29	31
Total this week	455	319	33	103	668,817	11,979	10,681
Total last week	559	379	53	128	508,728	....	....
Total this year	11,979	7,984	1,149	2,861	.....	....	....

Comparison of Permits Granted for New Wells

STATE	Week Ending July 4	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	...	...	51	17	70
California	27	27	490	472	925
Louisiana	21	21	63	411	846
Kansas	39	39	92	51	1,204
Michigan	14	14	25	247	734
Oklahoma	46	46	1,206	1,111	2,311
Texas	323	323	7,606	5,494	10,800
Total	470	470	11,271	8,271	16,964

PRODUCTION DOWN

Crude output is lower as Oklahoma shows drop

UNITED STATES crude oil production averaged 2,885,200 barrels daily during the past week, ending July 4. That was 49,475 barrels a day less than in the previous week, and within 46,900 barrels of the Bureau of Mines recommendation for June. The output represented the closest adherence to the federal allocations for a long period.

The decrease from the previous week's level was accounted for largely by a sharp decline in Oklahoma's production, but smaller declines occurred also in practically all the other leading producing states, including Texas, California, Kansas, and Louisiana. New Mexico output continued unchanged.

Oklahoma Off 46,675

Oklahoma last week averaged 508,650 barrels daily, or 46,675 barrels a day less than in the previous week. Oklahoma City was down about 30,000 barrels at 106,600 barrels daily, and Fitts pool showed a decline of about 5000 barrels, in averaging 43,650 barrels daily. The state last week was 43,850 barrels under the daily average recommended for June by the Bureau of Mines.

Kansas averaged 144,750 barrels daily last week, or 1250 barrels a day less than in the previous week. The state was 8350 barrels under its federal allocation.

Texas production again was low in comparison with the output in recent weeks, and reflected the reduced allowables for the state. Last week's rate was 1,136,100 barrels daily, or 1400 barrels a day less than in the previous week, and about 10,000 barrels a day more than the Bureau of Mines June allocation.

California output was 2000 barrels a day lower than in the previous week, at 568,000 barrels daily. That was 32,500 barrels a day more than the federal quota.

Louisiana last week averaged 222,325 barrels a day, which was 350 barrels a day less than in the previous week and 46,625 barrels a day more than the Bureau of Mines recommendation.

New Mexico averaged 73,000 barrels daily, the same as in the previous week, and 4700 barrels a day more than the federal allocation.

CUT PRICE

Saving in tax to pass on the gasoline consumer

NEW YORK.

WITH a reduction of one cent a gallon in the New York State gasoline tax taking effect on July 1, Socony-Vacuum Oil Company, Inc. announces that the price of its gasoline has been reduced an equivalent amount throughout the state on that date.

The one cent reduction in the tax was largely a result of a state-wide protest by New York motorists to the State Legislature at its last session. It lowers the state gasoline tax from four cents to three cents a gallon. In addition there is a Federal tax of one cent a gallon.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in June)	ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING July 4	June 27
TEXAS—			
Texas Panhandle	.....	61,800	61,500
North Texas	.....	58,900	58,400
West Central Texas	.....	25,000	25,100
West Texas	.....	177,800	174,200
East Central Texas	.....	51,400	53,300
*East Texas Field	.....	427,100	436,100
†South Texas	.....	84,600	82,400
†Texas Gulf Coast	.....	249,500	246,500
*Total Texas	1,125,700	1,136,100	1,137,500
OKLAHOMA—			
Oklahoma City	.....	106,600	137,775
Seminole Area	.....	138,900	137,675
Tatums	.....	3,050	3,175
Lucien	.....	12,650	12,750
Fitts	.....	43,650	48,625
Edmond	.....	10,000	11,800
Others	.....	193,800	203,525
Total Oklahoma	552,500	508,650	555,325
KANSAS—			
Ritz-Canton	.....	6,650	6,175
Voshell	.....	2,850	2,850
Nikkel-Hollow	.....	3,800	3,825
Sedgwick	.....	5,250	5,250
Burrton-Haury	.....	11,550	11,750
Lorraine	.....	6,100	6,800
Oxford	.....	5,225	6,025
Others	.....	103,325	103,325
Total Kansas	153,100	144,750	146,000
LOUISIANA—			
North Louisiana	.....	76,125	76,875
Louisiana Gulf Coast	.....	146,200	145,800
Total Louisiana	175,700	222,325	222,675
ARKANSAS	31,800	29,375	29,175
CALIFORNIA—			
Long Beach	.....	65,400	67,300
Santa Fe Springs	.....	42,500	43,500
Huntington Beach	.....	34,500	36,500
Dominguez	.....	26,000	24,500
Inglewood	.....	12,000	12,000
Ventura Avenua	.....	33,500	33,500
Seal Beach	.....	7,500	7,500
Midway-Sunset	.....	63,000	61,200
Elwood	.....	12,500	12,000
Kettleman Hills	.....	79,000	77,000
Mountain View	.....	27,500	26,500
Playa del Rey	.....	12,500	13,200
Others	.....	152,000	135,300
Total California	535,500	568,000	570,000
MOUNTAIN STATES—			
Wyoming	37,800	36,400	36,800
Montana	13,000	16,800	16,900
Colorado	4,700	4,900	4,700
Total Rocky Mountain States	55,500	58,100	58,400
NEW MEXICO	68,300	73,000	73,000
EASTERN STATES	103,200	110,400	110,500
MICHIGAN	37,000	34,500	32,100
*Total United States	2,838,300	2,885,200	2,934,675
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	.....	15,000	15,000
Grand Total, including surreptitious production	.....	2,900,200	2,949,675

† Coastal Section of South Texas is included with Texas Gulf Coast.

Crude Runs to Stills, Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended June 27, 1936

(Figures in thousands of barrels of 42 gallons each as reported to American Petroleum Institute)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
						Finished										
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines	Unfinished in Naphtha Distillates	Total Finished and Unfinished	Gas, Oil & Distillate	Residual Fuel Oil	Total	Potential Rate	Reporting		Daily Average
		Total	%											Total	%	
East Coast	612	612	100.0	534	87.3	6,830	11,571	872	19,273	4,484	5,193	9,677	534	534	100.0	111
Appalachian	154	146	94.8	108	74.0	1,234	1,041	279	2,554	275	187	462	79	78	98.7	23
Ind., Ill., Ky.	462	444	96.1	409	92.1	6,072	2,697	828	9,597	2,078	2,053	4,131	349	348	99.7	133
Okla., Kans., Mo.	453	384	84.8	292	76.0	4,003	2,254	558	6,815	759	2,623	3,382	256	228	89.1	69
Inland Texas	330	160	48.5	104	65.0	1,112	135	182	1,429	335	1,528	1,863	148	105	70.9	26
Texas Gulf	680	658	96.8	562	85.4	5,294	202	2,059	7,555	3,874	3,878	7,752	399	393	78.5	155
Louisiana Gulf	169	163	96.4	118	72.4	782	456	224	1,462	1,072	952	2,024	77	74	96.1	27
North La.,—Ark.	80	72	90.0	44	61.1	198	104	116	418	69	340	409	46	44	95.7	9
Rocky Mountain	97	60	61.9	47	78.3	1,279	.....	98	1,377	148	623	771	46	39	84.8	13
California	852	789	92.6	522	66.2	9,667	2,332	1,230	13,229	.....	.....	71,873	280	280	100.0	67
Reported	.....	3,488	89.7	2,740	78.6	36,471	20,792	6,446	63,709	.....	.....	102,344	.....	2,123	95.9	633
Estimated Unreported	.....	401	.....	190	.....	3,033	1,425	274	4,732	.....	.....	2,941	.....	91	.....	37
*Estimated Total U. S. June 27, 1936	3,889	3,889	.....	2,930	.....	39,504	22,217	6,720	68,441	.....	.....	105,285	2,214	2,214	.....	670
*Estimated Total U. S. June 20, 1936	3,889	3,889	.....	2,950	.....	40,273	22,124	6,817	69,214	.....	.....	104,728	2,214	2,214	.....	660
U. S. B. of M., June, 1935	.....	.....	.....	2,724	.....	†32,499	†20,642	†6,366	†59,507	.....	.....	†103,674	.....	.....	.....	586

* Bureau of Mines basis currently estimated † As of June 30, 1935.

DEFEAT TAXES

City gasoline taxes are losing in Missouri

Jefferson City.—City gasoline taxes, always unpopular, have met three recent defeats in Missouri. A one-cent per gallon tax has been repealed in Humansville, and attempts to impose municipal levies in Sullivan and Ellington fell before public disapproval. Repeal of city taxes currently is being sought in Springfield, St. Joseph, and Moberly.

The Humansville gasoline tax, first imposed December 1, 1934 at a rate of ½-cent per gallon, was increased on June 19, 1935 to one cent. Oil dealers refused to collect the higher tax and took the case to court, where they won their point.

GAS REVENUES UP

New York.—Manufactured and natural gas utility revenues amounted to $67,568,200 in April, 1936, as compared with $62,969,100 for the corresponding month of 1935, an increase of 7.3 percent, it was announced today by Paul Ryan, chief statistician of American Gas Association.

The manufactured gas industry reported revenues of $32,092,900 for the month, an increase of 2.3 percent from the same month of the preceding year. The natural gas utilities reported revenues of $35,475,300, or 12.3 percent more than for April, 1935.

Total sales of manufactured gas for the month were 33,018,300,000 cubic feet, an increase of 6.7 percent. Natural gas utility sales for the month amounted to 106,192,700,000 cubic feet, an increase of 18.6 percent.

Manufactured gas sales for domestic uses, such as cooking, water heating, refrigeration, etc., were 0.2 percent above April, 1935. Sales for house heating purposes, however, gained 11.5 percent, while industrial and commercial uses gained 19.4 percent.

Natural gas sales for domestic purposes showed an increase of 11.5 percent for the month, while industrial sales gained 22.5 percent.

LESS PAVED ROADS

Highway development is hurt by diversion

New York.—Evidence that diversion of revenue from gasoline taxes and motor vehicle registration fees to non-highway purposes tends drastically to curtail highway development is shown in studies comparing road progress made in the various states.

It has been found that Florida, Georgia, New York, and Texas, all which have made a regular practice of diverting highway funds to other expenses, have made gains in their road mileage averaging only 66.8 percent since 1928, whereas other states have shown an average gain of 92.4 percent in the same period.

The percentage of improvement of highways in Florida was only 43.8, while that of New York was only 45. The percentage increase in Georgia was 71, and that of Texas 89.2.

These four states added to highway mileage between 1928 and 1934 a total of only 30,720 miles. If they had maintained the rate of highway improvement and extension averaged by other states the total would have been 41,900 miles. In other words, gasoline taxpayers in these four states financed the construction of 41,900 miles of road, but only 30,720 miles were built.

SAFETY MANUAL

New A.P.I. book devoted to accident prevention

A manual of "Precautions for Oil-Field Work" has been published by the American Petroleum Institute's committee on accident prevention in production to aid in preventing accidents to workers engaged in routine field work. The manual covers precautions to be observed in operating power equipment, including boilers, steam, gas, oil, and gasoline engines, and electric motors; air compressors; such lifting equipment as central powers and pumping units; and producing equipment, including tanks. Miscellaneous subjects also covered include the necessity for proper maintenance of equipment, precautions in the transportation of workers, fire-fighting equipment, and first-aid education. Copies of the manual are available from institute headquarters, 50 West 50th street, New York, or division of production headquarters, 1508 Gulf States Building, Dallas.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to July 3, 1936)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Ector, Pecos, W'kler Crane, Upton, Howard and Glasscock	29— .76	2¢	36— .90	1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Talco	* .60			4-15-36
Texas Gulf Coast				
Anahuac-Dickinson	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbe Ridge	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	* .90			1- 9-36
Saxet	* .90			1- 9-36
Mirando	* .85			1- 9-36
Pettus	*1.25			1- 9-36
Salt Flat	* .97			1-14-36
Darst Creek	* .97			1-14-36
Placedo (Heavy)	* .85			4- -36
Placedo (Light)	* .95			4- -36
Port Lavaca	* .97			
Plymouth	* .90			12-17-35

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Arkansas				
El Dorado (Light) and Rainbow	25— .78	2¢	40— 1.10	1-10-36
El Dorado East Field and Smackover	* .75			1-10-36
North Louisiana	25—$0.78	2¢	40—$1.10	1-10-36
Urania	* .97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
Iowa, Cameron Mds.	Below 19— .82	2¢	34— 1.12	1- 9-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.28			1- 9-36
Grass Creek (Light)	*1.28			1- 9-36
Grass Creek (Heavy)	* .58			1- 9-36
Big Muddy	*1.11			1- 9-36
Rock Creek	*1.12			1- 9-36
Sunburst	*1.15			6- 5-36
Lance Creek	* .90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.35			6- 3-36
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	* .75			9-29-33
Mid-West States				
Lima	*1.25			1-10-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-36
Western Kentucky	*1.23			1- 9-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.42			1-13-36
Michigan				
Central Michigan	*1.42			6-15-36
Muskegon	* .70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut °4
September 6, 1935	Up .5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up °28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up °9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up '5

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ⅓ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
° Signal Hill 26 gravity.
' Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)

Gravity	Signal Hill	ea Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills Elk Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.80	$.79	$.78	$.79	$.80	$.76	.....	.....	$.80	$.76	$.76	$.77	$.78	.....	$.70	.....	$.70	$.70	$.70	.....
15-15.9	.80	.79	.78	.79	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
16-16.9	.80	.79	.78	.79	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
17-17.9	.80	.79	.78	.81	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
18-18.9	.80	.79	.78	.84	.80	.78	.....	.....	.82	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
19-19.9	.82	.79	.82	.87	.84	.81	.....	.....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	.74	71	$.70
20-20.9	.85	.79	.85	.90	.88	.84	.....	.....	.88	.78	.82	.77	.80	.....	.....	.70	.78	.78	.72	70
21-21.9	.88	.79	.89	.93	.93	.88	.....	.....	.91	.80	.85	.77	.84	.78	.....	.73	.82	.82	.74	70
22-22.9	.92	.82	.92	.96	.98	.92	.....	.....	.93	.84	.89	.79	.88	.78	.....	.77	.87	.86	.78	.72
23-23.9	.95	.86	.96	.99	1.02	.96	$.84	.....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24-24.9	.99	.91	1.00	1.02	1.06	.99	.88	.....	.99	.91	.96	.85	.96	.82	.....	.84	.97	.94	.86	.79
25-25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	.....	1.02	.95	.....	.89	.99	.86	.....	.88	1.01	.98	.90	.83
26-26.9	1.06	1.00	1.07	1.09	1.16	1.06	.98	.....	1.05	.98	.....	.92	1.03	.90	.....	.91	1.06	1.02	.....	.....
27-27.9	1.10	1.05	1.11	1.12	.....	1.10	1.03	.....	.....	1.02	.....	.96	1.06	.95	.....	.95	1.10	1.06	.....	.....
28-28.9	1.14	1.10	1.14	1.15	.....	1.14	1.07	.....	.....	1.06	.....	.99	1.10	.99	.....	.99	1.15	1.10	.....	.....
29-29.9	1.17	1.15	1.18	1.18	F.O.B.	1.17	1.12	.....	.....	1.09	.....	1.03	1.14	1.03	.....	1.02	1.20	1.14	.....	.....
30-30.9	1.21	1.19	1.22	1.21	Pipe	1.21	1.17	F.O.B.	.....	.....	.....	1.07	1.17	1.08	.....	1.06	1.25	1.18	.....	.....
31-31.9	.....	.....	.....	1.24	Line	1.24	1.22	Ship	Kettleman Hills			1.11	1.21	1.12	.....	1.09	1.29	.....	.....	.....
32-32.9	.....	.....	.....	1.27	.....	1.27	1.27	.....				1.14	1.25	1.16	.....	1.13	1.34	.....	.....	.....
33-33.9	.....	.....	.....	.....	.....	.....	1.32	$1.28		1.19		1.18	1.28	1.20	.....	1.17	1.38	.....	.....	.....
34-34.9	.....	.....	.....	.....	.....	.....	1.37	1.32	.....	1.23	.....	1.22	1.32	1.25	.....	1.20	.....	.....	.....	.....
35-35.9	.....	.....	.....	.....	.....	.....	1.42	1.35	.....	1.27	.....	1.25	.....	1.29	.....	.....	.....	.....	.....	.....
36-36.9	.....	.....	.....	.....	.....	.....	1.46	1.39	.....	1.31	.....	1.29	.....	1.33	.....	.....	.....	.....	.....	.....
37-37.9	.....	.....	.....	.....	.....	.....	1.51	1.43	.....	1.35	.....	1.32	.....	1.37	.....	.....	.....	.....	.....	.....
38-38.9	.....	.....	.....	.....	.....	.....	1.56	.....	.....	1.39	.....	1.36	.....	1.42	.....	.....	.....	.....	.....	.....
39-39.9	.....	.....	.....	.....	.....	.....	1.61	.....	.....	1.43	.....	1.40	.....	.....	.....	.....	.....	.....	.....	.....
40-40.9	.....	.....	.....	.....	.....	.....	1.66	.....	.....	.....	.....	1.43	.....	.....	.....	.....	.....	.....	.....	.....

Edited by
WM. V. GROSS, Associate Editor

Turner Valley

NEW COMPLETION MARKS EXISTENCE OF WEST FLANK

By GEORGE R. ELLIOTT, Petroleum Geologist

WHEN Turner Valley Royalties No. 1 was completed on June 15 at 6828 feet for 900 barrels per day of 44 gravity crude, it would appear to be the beginning of a new phase of a twelve-year old Canadian field. It proves what had been only suggested by other wells, the existence of a prolific crude oil reservoir on the west flank of the structure.

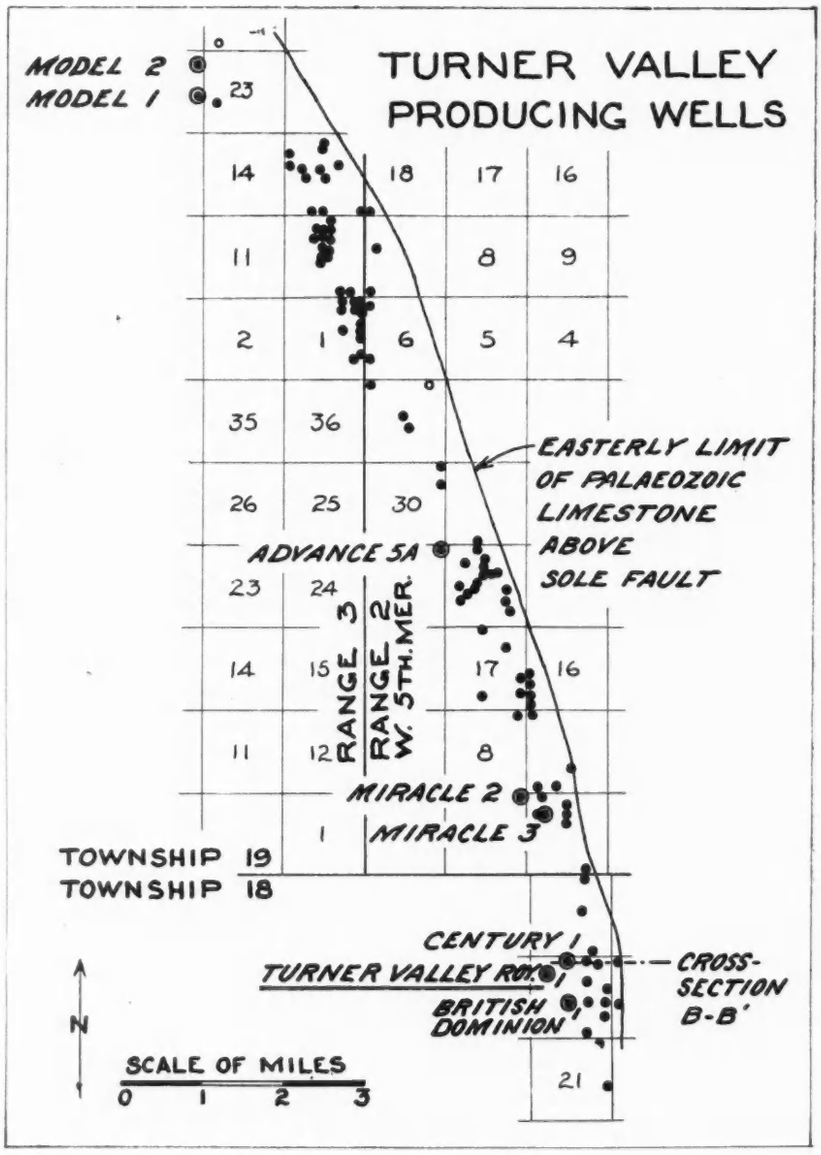
Turner Valley Royalties well may claim the following distinctive features: 1. The largest well yet completed in the field; 2. The lowest gravity product in the field; 3. The lowest gas-oil ratio, about 2500 cubic feet per barrel; and 4. Producing horizon at the lowest elevation; top of limestone 2155 feet below sea level.

Turner Valley has been notorious for several years as a field where gas is produced in large quantities, to recover comparatively small production of 72-gravity crude naphtha. One hundred wells have been producing about 250 million cubic feet of gas per day, from which separators have been recovering about 2000 barrels of naphtha per day, averaging over 100,000 cubic feet of gas per barrel. The tail-gas is now nearly all processed in absorption plants, which have increased the total daily production to about 3200 barrels per day. Using the total figure, the average gas-oil ratio is still 80,000 cubic feet per barrel.

The accompanying map shows the location of Turner Valley No. 1. The Cross-section B-B′ is a picture of the structural conditions. As the cross-section indicates, correlation on upper markers does not provide a safe basis for accurate estimates of the depth to the producing horizon. Repetitions and thickening, caused by crumpled zones, have to be taken into account.

The dip of the limestone contact as shown in the cross-section is 24 degrees for the quarter-mile east of the new well, and 30 degrees for the next quarter-mile toward the crest of the structure. True dip is around 30 degrees, almost due west.

On the map, indicated by double circles, are eight wells which produce a crude considerably heavier than the 72-gravity naphtha. Only one of these comes close to the new well in gravity, Model No. 1, with a gravity of 47; Model No. 1 crude in 1932 had a gravity of 59; the gravity and gas-oil ratio has continuously declined, while at the same time the daily production has



been increasing. In the "Home" area, in the center of the map, Advance 5A had a gravity of 69 in 1932, and is now about 55. All the wells designated by name on the map, except Model No. 1 and Turner Valley Royalties No. 1, are now producing crude having a gravity of about 55 to 57.

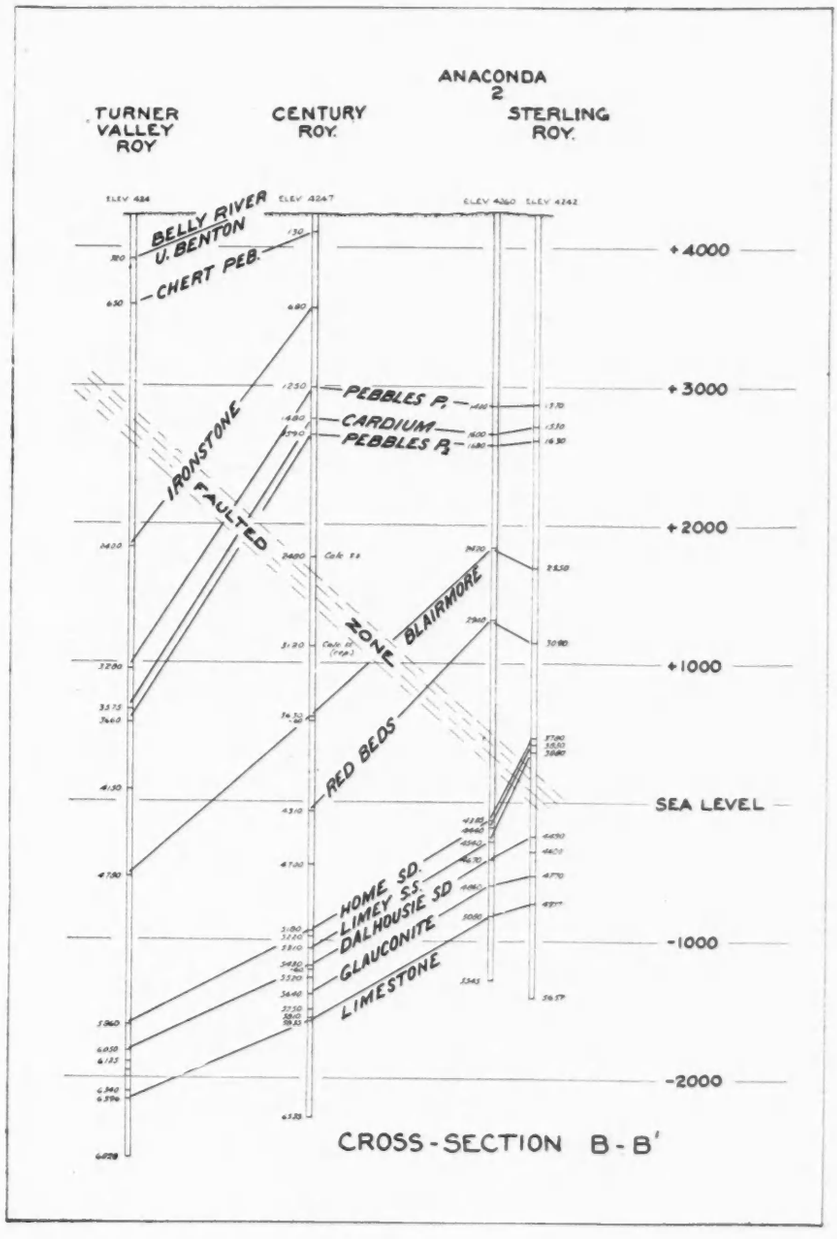
Progressive lowering of gravities in these wells on the present west edge of the field, indicates movement of the oil up the dip, as the pressure declines higher on the structure, but the movement is slow through the irregular pores of the limestone. Wells will be drilled farther down the flank. As is characteristic of limestone reservoirs, the initial production of these wells will vary widely; some may be larger than the Turner Valley Royalties well, and some are sure to be smaller.

There is no evidence as yet to prove the presence of salt water on the edge of the oil, but it is to be expected. Whether or not this edge water will be encountered by drilling, depends on how far west it is found commercially profitable to go; and this in turn depends on the size of the wells brought in at these increasing depths.

MEXICAN LABOR

Roberto Haberman of New York, for 20 years associated with the Mexican federation of labor, is quoted as telling the International Association of Oil Field, Gas Well and Refinery Workers in convention in Tulsa June 3 that the oil workers under the C.R.O.M. (Mexican federation of labor) were the highest paid in Mexico. "You can live much cheaper and I advise you all to retire to Mexico," he said.

Plutarco Elias Calles, former president of Mexico, who addressed the convention June 1, espoused the C.R.O.M.



WILDCATS ALL DRY
74 tests drilled in Brazil fail to find production

Seventy-four tests drilled by the Brazilian government in the past 15 years are said to have revealed no indications of commercial oil or gas production, according to a report sent the United States department of commerce by A. A. Barrington, assistant trade commissioner at Rio de Janeiro. Of these tests, 50 were drilled in the southern part of Brazil, 12 in the coastal belt, and 12 in the Amazon valley.

Geological opinion is that the most promising of known prospects in Brazil lie within the territory of Acre and in the southwestern part of Matto Grosso. However, commercial production of petroleum is considered possible in the Lower Amazon country along the Tapajos River, where natural gas and minor oil shows have been found.

A forthcoming issue of THE OIL WEEKLY will present a geological paper on brazil by Victor Oppenheim, petroleum geologist who has been retained by the Brazilian government for preliminary exploration work.

NEW REFINERY
Petromex to build unit near plant at Tampico

Petroleos De Mexico, S. A.—A company controlled by the Mexican government, has just signed a Dubbs license contract and will build a Dubbs two-coil selective cracking unit at its Tampico refinery.

The refinery now has a crude oil capacity of 3000 barrels daily and the Dubbs unit is to crack 1100 barrels a day. Petromex will build the unit under the supervision of engineers of the Universal Oil Products Company. The company obtains its production from the Poza Rica and Panuco fields. It is also drilling two wells in the Altamira district, on Federal zone property adjacent to the Tamesi River.

MEXICO PROTESTS
Limitation of oil imports is subject of telegram

The confederation of chambers of commerce of Mexico has sent a cablegram to Secretary of State Cordell Hull at Washington, "respectfully protesting" against any limitation of the importation into the United States of Mexican oil, or any tariff increase.

The cablegram read: "Aware that an American senatorial committee has before it a bill to establish a limited quota on importation and to raise the oil tariff to an extent which would make the cost of Mexican oil prohibitive, we respectfully protest against such possible steps as calculated to injure Mexican exports and perhaps result in danger to good commercial and friendly relations."

Petroleum and its products constitute more than 10 percent of United States exports.

Oil Before Drake

EARLY MERCHANTS MADE GREAT CLAIMS FOR ITS ABILITY TO CURE

By GRADY TRIPLETT, Staff Writer

OIL had power in that day, a day 10 years and more ahead of the drilling of the Drake well. Power is claimed for it now, as witness the destruction credited to a gallon of gasoline, which could make the Rock of Gibraltar quiver enough to cause consternation back home in England. But power of that sort is nothing compared with what came about when the contents of medicine bottles were applied to relieve blindness, rheumatism, cholera morbus, dysentery, piles, scrofula and a few other diseases.

The claims of cure were presented for "Petroleum or rock oil, a natural remedy, procured from a well in Allegheny County, four hundred feet below the earth's surface, put up and sold by Samuel M. Kier." Kier deserves a place in oil history for writing perhaps the first advertising in behalf of the industry that has let medicinal values become a minor part of its appeal. He had his office and bottling plant in Canal Basin, Seventh street, Pittsburgh.

His pamphlet was found among some old family papers concerning the oil industry by P. C. Jones, president of The S. M. Jones Company, Toledo.

The price of Kier's remedy was 50 cents a bottle with nothing said about the size of the bottle. Without this detail, however, it is reasonable to calculate that a barrel of oil could be converted into more dollars than is now possible by all the refining, filtering and advertising that goes into the sale of products on which the industry hopes for profit.

And Kier went to no expense of refining and filtering. He made that clear in these words: "it is put up as it flows from the bosom of the earth, without anything being added to or taken from it." It is in order to want to reword his sentence but there is no missing his claim. He sold oil as he found it, as nature made it and he got a price for it, for a bottle that would fit in a family medicine chest around 1850 could go to a barrel several hundred times without straining the spigot.

But Kier had his troubles. His competition was bad and a deduction from his advertising is that his competitors were unscrupulous. His competitors were the compounders of medicinal remedies. He wrote:

"The cry of humbug was raised against it. It had some friends, those that were cured through its wonderful agency. These spoke out in its favor. The lame, through its instrumentality, were made to walk—the blind to see. Those who had suffered for years under the torturing pains of rheumatism, gout and neuralgia were restored to health and usefulness. Several, who were blind, were made to see, the evidence of which will be placed before you. If you still have doubts, go and ask those who have been cured!"

Although he had some support from medical profession, evidently some of its members were doubters and even competitors, for he called them to account with:

"If the physicians do not recommend it, the people will have it of themselves—for its transcendent power to heal will and must become known and appreciated—when the voices of the cured speak out; when the cures themselves stand out in bold relief and when he who for years has suffered with the tortures and pangs of an immedicable lesion, that has been shortening his days and hastening him 'to the narrow house appointed for all the living;' when he speaks out in its praise, who will doubt?"

Before going into individual cases, just this one general claim from the pen of Kier:

"The petroleum is a great medicine in scrofula and king's evil, in all those diseases having their origin in a depraved condition of the blood and other fluids of the body. It will cure pains and enlargements of the bones and joints, blotches, biles, erysipelas, pimples on the face, tetter, scald-head, ring worm and various other skin diseases."

Listen to William Hall, a Pittsburgher of 1851, who had an inflammation of the eyes which "ended in a deposite of thick film which wholly destroyed my sight." For a cure he added: "by the advice of some friends I commenced the use of the Petroleum both internally and locally, under which my eyes have improved daily until the present time and I have recovered my sight entirely."

Humphrey Jones, Crow's Bottom, Beaver County, Pennsylvania, tells of a Londoner, Henry Els, who went to the best hospitals of England and was discharged as uncurable. He adds, "I got him a small bottle of the Petroleum Oil which cured his eyes well and sound in the course of one month."

And Frederick H. Blecker wrote: "I was afflicted with that awful and disheartening disease, the Inflammatory Rheumatism, on the 21st of September last, whilst I was in Cleveland and was brought from that place to Middleburg, where I lay on my back for over two months. For three weeks of this time I was in the most intense suffering and agony. I lay with my limbs in one position and could not stir a muscle nor have my bed changed. My screams could be heard all over the neighborhood so intense was my suffering. When every other remedy proved valueless, I had recourse to your invaluable Petroleum of which I had made but three applications until I commenced to get better. I used altogether but two bottles and a half and am now well."

A physician was one of those to attest the truth of what happened to Blecker.

John Watt had a chronic cough, which the physicians could not halt, but four bottles of the Petroleum put an end to it.

Ague was troubling Walter McGee when a boat captain took him to Pittsburgh and "recommended the Petroleum to me, stating that he knew several cases that ha dbeen cured by its use. I had no more chills after I commenced using it, one week since."

The pamphlet which Kier prepared had sales appeal, like this from two merchant partners in Frederick City:

"Your agent was here some time ago

An exact reproduction of the upper half of the first page of Sam Kier's 8-page booklet on oil—the medicine.

PETROLEUM, OR ROCK OIL.

A NATURAL REMEDY!

PROCURED FROM A WELL IN ALLEGHENY COUNTY, PA.

Four hundred feet below the Earth's Surface!

PUT UP AND SOLD BY

SAMUEL M. KIER,

CANAL BASIN, SEVENTH STREET, PITTSBURGH, PA.

The healthful balm from Nature's secret spring,
The bloom of health, and life, to man will bring;
As from her depths the magic liquid flows,
To calm our sufferings, and assuage our woes

CAUTION.—As many persons are now going about and vending an article of a spurious character, calling it Petroleum, or Rock Oil, we would caution the public against all preparations bearing that name not having the name of S. M. KIER written on the label of the bottle.

PETROLEUM.—It is necessary, upon the introduction of a new medicine to the notice of the public, that something should be said in relation to its powers in healing disease, and the manner in which it acts. Man's organization is a complicated one; and to understand the functions of each organ, requires the study of years. But to understand that certain remedies produce certain impres-

with your Petroleum or Rock Oil and made us agents for the sale of it. It has taken so much with the people that we are now sold out. If you can send up two dozen more we should like it as we have calls for it daily: we do not like to be out and your agent told us he would not be along for six months."

(Imagine the petroleum industry of this day leaving a retailer without a call for six months.)

Another retailer, Francis Kelly, Greenfield, Ohio, also had to write for additional supplies: "Some three weeks ago your agent left me two dozen of your Petroleum. I have sold out and want more; you will please send me four dozen."

The testimonials run to great length but the uses ran to still more length according to the directions Kier prepared for his product. These were:

"Old sores and ulcers will be removed by the daily application and administration of the petroleum.

"Worms—In doses of 15 to 20 drops, administered to children two or three years old and upwards, two or three times daily, it will remove worms. It is a certain remedy against tape worm and ascarides in grown persons in which case the dose must be a tea spoonful.

"Bronchitis and asthma can be relieved by the Petroleum. The distressing cough, night sweats and difficulty of breathing are removed by its use in a very short time.

"Fever and ague—The Petroleum has been used in fever and ague with complete success. It will be found a certain and effective remedy in that troublesome disease. The dose in such cases is a tea spoonful in any pleasant vehicle every three hours in the absence of the fever.

"Tooth ache—A few drops dropped on cotton and placed in the cavity of an aching tooth will relieve it immediately.

"Croup—By saturating a flannel cloth with the Petroleum and applying it to the neck and breast it will give immediate relief.

"It is also an invaluable remedy in the different forms of scarlet fever to be used locally as in cases of croup.

"Neuralgia in its various kinds, is cured by the free applications along the painful tract of nerve. In that species of neuralgia denominated spinal irritation the petroleum has given permanent relief by rubbing with it night and morning.

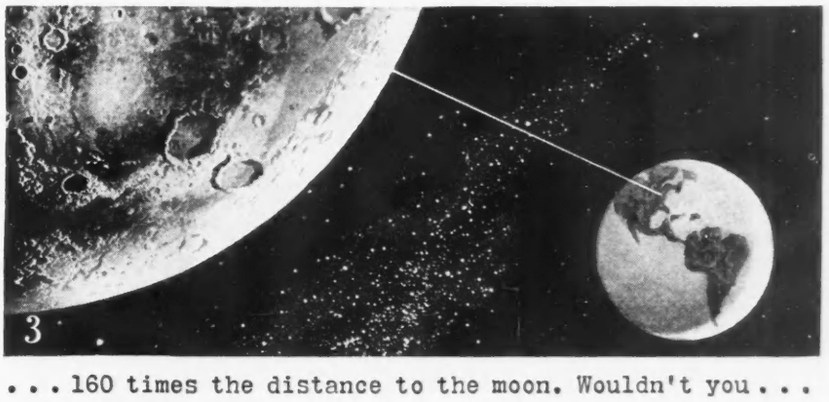
"Corns—For corns this remedy has been used with complete success. The plan of using is to saturate a piece of cotton with the Petroleum and tie it upon the corn. The corn should be paired down every two or three days and the Petroleum applied until all the hardness has been absorbed."

LIQUIDATION

Standard Oil Company of New Jersey expects to be able to wind up by late June affairs of Standard Oil Export Corporation, a subsidiary which showed a small loss in 1934 and 1935. A few weeks ago the parent company declared intention of retiring $76,493,500 of five percent preferred stock in the export company, which has functioned more or less as a service organization. Liquidation of Standard Oil Export Corporation is in line with Standard Oil Company of New Jersey's recent moves to simplify its corporate structure.

Ann Rutherford, Republic Star, now playing in "The Harvester", looks for the famous Sinclair dinosaur on cans of Sinclair Opaline and Pennsylvania Motor Oils. Sinclair Motor Oils are used in . . .

. . . 1,700,000 motor cars which travel 38 million miles a day, or . . .



. . . 160 times the distance to the moon. Wouldn't you . . .

. . . like to sell products that are in such great demand? For full details, write to Sinclair Refining Company (Inc.), 630 Fifth Avenue, New York City.

Big Production

ALL WELLS IN NEW MOORE ARE UNUSUALLY LARGE

WEEKLY STAFF REPORT

Oklahoma City.—Interest of central Oklahoma production circles turned last week to the Moore pool, Cleveland County, where three wells give assurance of major oil production. July 1 potential test was taken on Franklin 1, SE NW SE 21-10-2w, drilled on the community block by Sinclair Prairie Oil Company. It drew a rating of 35,274 barrels from the Wilcox sand after a three-hour test through 7-inch casing.

Franklin 1 is the first well of the pool. It was completed as a gas well June 7, 1935, of 200,000,000 cubic feet capacity. Later it began making distillate and this increased to around 2000 barrels daily. Then the hole was deepened to 7318 feet, its present depth, where 7-inch casing was set.

The potential test was rated at 1874 barrels for the first hour, 1544 barrels the second hour, 1475 barrels the third hour and flowed 1389 barrels in the fourth hour. The last three hours of flow were used for calculating potential flow. It had a gas flow of 69,300,000 cubic feet daily. The test was made against back pressure of from 250 to 300 pounds.

The Wilcox sand was topped at 7267 feet. The 7-inch casing is set at 7269 feet.

A test taken July 2 gave Rice 1, NEc 28-10-2w, second well of the Moore pool, a potential rating of 14,615 barrels daily after flowing four hours. The test was taken through 7-inch casing set at 7205 feet. Total depth is 7312 feet, in Wilcox sand. Gas volume was at 70,000,000 cubic feet daily. This well is a half mile south of Franklin 1, on a community block drilled by Sinclair Prairie Oil Company.

As soon as 7-inch casing can be set in Marvel 1, NW SW NE 21-10-2w potential will be taken. This well is 7267 feet deep. It has had one test through 9-inch casing and flowed 630 barrels in 26 minutes against back-pressure of 850 pounds.

The three wells are on a community block of 1360 acres. Development is being done by Sinclair Prairie Oil Company. There are 10 other wells drilling in what geological studies have outlined as the producing structure. The area favored is three fourths of a mile wide and about three miles long.

Recent showings of these wells have brought other producing companies into the area. Sinclair Prairie Oil Company, Mid-Continent Petroleum Corporation, Magnolia Petroleum Company, Anderson-Prichard Oil Corporation, Phillips Petroleum Company and The Texas Comany are among the concerns to take leases around the original community block.

Field development in the north extension of the Oklahoma City pool held to its pace of the previous week, as new locations were sufficient to balance completions. Most of these new locations are in the area between the north extension and the older part of the pool. Knox Garvin and associates staked locations for four tests on private property adjoining the state lands around the State university medical school and hospital.

The State School Land Commission opened bids June 29 on the 24.86 acres around these institutions but declined to grant leases when only one bid was on hand and this was not considered sufficient. The land was divided into three tracts and the bonus offered for the three was but $69,500 dollars. The commission had specified that nine wells be drilled on this acreage and the leases called for a fourth royalty. Other lease holders are of the opinion that no substantial bonuses will be offered under these requirements.

One of the outstanding completions of the week was Barnsdall Oil Company and Bay Oil Company's Edwards 4, at Thirty-ninth street and Phillips avenue, which was completed for potential rating of 17,494 barrels from the Wilcox sand from 6404 feet to 6434 feet. It is evidently near the fault line in the extension area. It is a block east of a small producer and a block southeast of a well, which had been shut down when nearby wells showed for small production.

Barnsdall Oil Company's 1 Shade, Twenty-second street and Kelly avenue, gave indications of good production when drilling was halted at 6459 feet. It was doing 425 barrels an hour through drill pipe.

Active wells in the north extension

South Area Quiet

WILDCATS DRILLING AHEAD WITHOUT MUCH CHANGE

Ardmore. — Southwestern Oklahoma wildcat tests continued drilling ahead during the past week with no important showings encountered.

Gulf Oil Corporation's Wearmouth 1, SE NW SE 31-1s-18w, Tillman County wildcat, completed a fishing job and was drilling ahead from 4980 feet. Operators are coring as they go, at present in a lime formation. The same operator's McWilliams 1, NW SW SW 14-3s-17w, southeast of Frederick, Tillman County, another wildcat test, was drilling in lime below 4020 feet. Difficulty has been experienced on both of these locations, and good showings have been encountered.

Parson Brothers' Riling 1, SE SE SW 21-1s-15w, northeast Tillman County, is a new start that is scheduled to test horizons above 5100 feet. Other previous wells in this area have shown for gas and oil at relatively shallow depths and in Jackson County, the Altus pool, southeast of the town of that name, produces from the granite wash at 1400 to 1500 feet. The lease play in Tillman County continues with tracts being acquired by Gulf Oil Corporation, Indian Territory Illuminating Company, Magnolia Petroleum Company and Foster Petroleum Corporation. Most of these last acquisitions are fill-in leases of blocks previously acquired.

Sinclair Prairie Oil Company's Stockton 1, SE SE SW 26-6s-2w, Love County test that has been in difficulty with lost drill pipe, is drilling above its earlier depth, 8785 feet, after plugging back. The upper Simpson, between 8400 feet and 8488 will probably be tested.

North of the Stockton well, in Carter County, Carter Oil Company's Walker 1, C SE SW 34-5s-2w, is drilling below 7040 feet after making a drill stem test of a sand immediately above that depth. Operators have had difficulty keeping an adequate supply of drilling water, but are able to drill ahead slowly.

Gulf Oil Corporation's Shirley 3, NW NE 6-1s-19w, extended the Tipton pool of Jackson County one location to the west when it proved for oil from the Arbuckle lime. The pay was topped at 2609 feet and drilled to a total depth of 2622 feet. In eighteen hours the well made 220 barrels of oil flowing and swabbed 90 barrels in six hours.

A wildcat test drilled in 1933, Viletta 1, C NE SE 12-5s-4e, Marshall County, which was completed in the Sylvan shale at a total depth of 5418 feet, has been acquired by the Patsy Oil Company of Ada, Oklahoma. Operators plan to test showings encountered in the Hunton and higher, and if no commercial production is proven, to deepen the test to lower pays.

stood at 44 at the end of the week. Of these 14 were either waiting on cement to set, ready to drill in or waiting to take potential. Four tests were shut down to await results of nearby wells.

Carter Oil Company's Miller 2, SW NE SE 28-17-4w, in the recognized pay zone of the Crescent pool of Logan County, tested for 350 barrels of oil from 6283 feet in the top of the pay. Later, the well made 240 barrels in fifteen minutes from 6324 feet as operators were drilling in under pressure.

The west Lovell area of Logan County proved for an extension in the Wilcox when Mulberry Oil Company's Quigley 1, SWc 21-18-4w, cored saturation in the Wilcox at 6145 feet. This area was discovered by Stanolind Oil & Gas Company and Amerada Petroleum Corporation.

In the Crescent pool, Logan County, Carter Oil Company and Gulf Oil Corporation's Miller 2, SW NE SE 28-17-4w, was deepened to 6324 feet and flowed 200 barrels in 10 minutes. It was previously completed at 6293 feet in Wilcox sand and deepened following the success of Continental Oil Company's McConnell 2, NW SE SE 27-17-4w, which gained a potential rating of 33,928 barrels when tested last week after deepening to 6305 feet in the second Wilcox sand.

Jesse Outlined

NEW COMPLETIONS FURNISH SOME IDEA OF STRUCTURE

Tulsa.—Sunray Oil Company's Shumard 1, shown as No. 1 on the map, NE SW SE 2-1n-7e, one and one-quarter miles northwest of production in the Jesse pool, which was running two and one-half inch tubing last week preparatory to taking a potential, proved possibilities of extensive production from the bromide flank of the pool. Hole is bottomed at 4554 feet in the second Bromide topped at 4498 feet. The first Bromide was from 4355 to 4488 feet and carried a show of oil. During test of the lower strata, the well flowed 1250 barrels in 21 hours.

Continental Oil Company's Simpson 3, NW SW NE 12-1n-7e, number 6 on the map, which tested the Wilcox (?) member of the McLish to make 100 barrels of water an hour, was plugging back to the Bromide at 4220 to 4690 feet where previously it made 20 barrels of oil an hour after being treated with 6,000 gallons of acid. The McLish pay was topped at 4505 and was drilled to 4533 feet. The well made oil with the water, but the oil was coming from the upper strata, and not from the McLish, which did not show for any oil production. The same company's McCarty 3, SW SE SE 2-1n-7e, shown as No. 7 on the map, flowed 60 barrels of oil in 12 hours from 4666 feet. This well is drilling deeper to test the lower McLish and if other wells may be indicative, will probably cut some water. Continental Oil Company's House 2, listed as 13 on the map, the only drilling well of the field, was having difficulty with surface pipe.

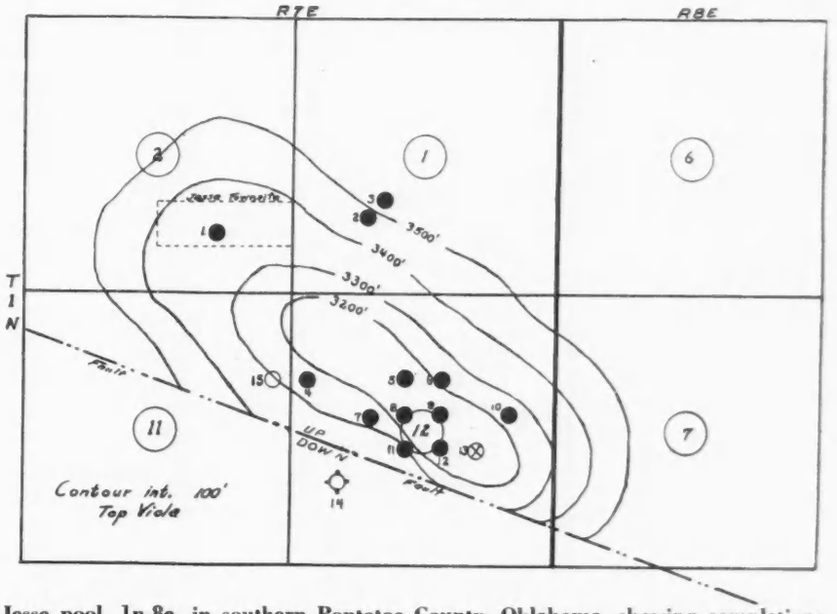
Continental Oil Company's Monroe 1, No. 4 on the map, NW SW NW 12-1n-7e, which completed for a 505 barrel flow from the Wilcox at 4741 feet, to extend McLish production to the north and west, is important in determining the water trend of the McLish. Considering the center of the structure to be at the center of section 12, which is apparent from 100 foot contours determined at the top of the Viola lime, oil production in the Wilcox from the east of the center of the pool, is doubtful. This fact is further proven by Continental Oil Company's McCarty 2, numbered 5 on the map, which showed for 1083 barrels of oil cut with 6 percent water. This well is less than one half mile directly east in the same quarter. Hole was bottomed at 4745 feet in the Wilcox of the McLish. Continental Oil Company's Simpson 2, SW SE NE 12-1n-7e, No. 10, one-quarter mile east of the discovery in the Wilcox, developed a hole full of water when the pay was topped at 4709 feet, and was plugged back to complete in the Bromide.

Successive occurrences of water in the McLish sand have set up a flexible water table at minus 3990 feet, with a conformity agreement with the structural trend to the northwest. The northwest-southeast fault line, not yet definitely determined, has proved a barrier to southern extension, although The Texas Company's Simpson 1, shown as 14 on the map, in the southwest quarter of section 12, across the fault line from production, drilled to 5415 feet and was abandoned as a dry hole.

North of most of the present activity, Sledge and Lynch et al's Thompson 1, drilled in March 12, 1935, as the first producer of the area. In this well, which is now producing about 32 barrels from the Hunton at 3833 to 4109 feet, the McLish was dry, and showed for salt water in the Bromide. Initial production from the Hunton was 63 barrels per day after the well was shot with 140 quarts and treated with 2700 gallons of acid. This well is No. 3 on the map.

In view of McLish water trend and encounters in wells east of Continental Oil Company's Monroe 1, there is a possibility of McLish production along a narrow strip from a structural center to the west, and paralleling the fault line, which has a thrust of more than 300 feet. Hunton lime production as encountered north of the central area is indicative of flank wells to this pay, particularly to the north and west. Other wells than the lone Hunton producer encountered good shows in this formation.

The extension of production from the Bromide is the most promising feature of present development in the area. It is apparent that any Bromide production obtained near the heart of the field will be light. Well logs prove this horizon to be pinched at the crest of the structure to such an extent that the porosity is distinctly unfavorable to commercial production. At the Jesse Townsite well, Sunray Oil Company's Shumard 1, the Bromide section was drilled from 4210 to 4554



Jesse pool, 1n-8e, in southern Pontotoc County, Oklahoma, showing completions north of the fault zone and The Texas Company's Simpson 1, south of the fault, condemning southern extension. Water shows in the McLish have defined deeper production and limited productive area to Bromide, or higher, on a northwest trend.

feet, with the pay section quite porous from 4498 to 4554 feet. Good showings were encountered in Hunton from 3774 to 3975 feet and in the Viola lime from 4103 to 4365 feet.

Geologically, Jesse is a companion pool of Fitts. However, some question has arisen about the proper designation of the McLish producing zone as the Wilcox. In Fitts pool the Wilcox is 300 feet beneath the top of the McLish and in Jesse, only 200 feet, leaving 100 feet to be accounted for. In Jesse, the Viola lime is averaging 250 feet in thickness and the Bromide formation is about 270 feet through. The sand lenses of both these formations may be productive on the north and west flanks of Jesse pool.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO COUNTY—		
Marathon Oil, Marchand 4, sw se nw 2-5n-9w	¶62.1077	6367
CARTER COUNTY—		
Barnett, Inc., Lynn 4, cn½ ne 31-1s-2w	30	1732
Magnolia, Richards 15, sw ne ne 6-4s-3w (otd 956)	10	1162
Twin State, Cochneur 3, ne se se nw 8-4s-3w (otd 1005)	12	1071
COMANCHE COUNTY—		
Meiling, Miller 1, ne ne sw 23-4n-12w	*	995
CREEK COUNTY—		
Kirchner et al, Marrison 1-A, cwl sw sw 16-17n-8e (pb 2815)	¶3	2816
Saco Oil, Leader 3, ne se sw 15-18n-8e	20	2780
Young, Williams 1, se se nw 27-18n-8e	4	2602
HUGHES COUNTY—		
Seran, Tucker 1, sw se se 2-9n-8e	80	1791
Manahan, Oliphant "B" 7, nw ne se 11-9n-8e	150	1769
The Texas Co., Keeton 2, nw sw se 4-8n-10e	¶3½	3114
JACKSON COUNTY—		
Gulf Oil, Shirley 2, se nw ne 6-1s-19w	1392	2605
KIOWA COUNTY—		
Cap Field, Crosley 1, nw se se 34-7n-17w	lcn.	abd.
LOGAN COUNTY—		
Continental, McConnell 2, nw se se 28-17n-4w	¶41.33,928	6305
MARSHALL COUNTY—		
Leavell Coal, Brent 6, ne nw se 1-8s-5e	32	535
Priest et al, Cope-Sublett 9, se sw ne 1-8s-5e	*	589
Wilkens, Crump 10, nw se se 10-2s-5w	6	801
McINTOSH COUNTY—		
I. T. I. O., Toncred 1, sw sw ne 9-9n-14e (pb 3272)	¶1½	4539
MURRAY COUNTY—		
Hornsby & Jones, Sadler 1, ne ne nw 20-1n-2e	*	1620
OKFUSKEE COUNTY—		
Blackwell O. & G., Land 1, sw se nw 17-10n-9e	*	1836
Suppes, Alexander 1-A, csl nw ne 35-11n-9e	15	1472
OKLAHOMA COUNTY—		
Fairfax Oil, Russell 1, ne sw se 15-12n-3w	¶9-954	6452
Anderson & Kerr, Park-O-Tell 1, ne se sw 22-12n-3w	¶16-10,686	6474
Anderson-Prichard, Hare 1, ne nw ne 22-12n-3w	¶11-17,382	6470
Welcha 1, nw nw ne 22-12n-3w	¶20-448	6484
Black Gold Pet., Sawyer 1, sw sw ne 22-12n-3w	¶18-14,373	6450
British-American, McNabb Park 6, nw se ne 22-12n-3w	¶26-17,509	6468
Empire, Levy 1-A, se se nw 22-12n-3w (pb 6480)	1867	6495
Phillips, Bella Casa 1, sw se se 22-12n-3w	¶19-14,571	6523
Bella Casa 2, se sw se se 22-12n-3w	¶24-15,337	6524
Dilley 1, sw sw se 22-12n-3w	¶3½-7335	6521
Mayo 1, nw sw se 22-12n-3w	¶8½-11,291	6516
Rickard 1, se ne nw se 22-12n-3w	¶12-8608	6511
Sawyer 4, ne se sw ne 22-12n-3w	¶8-10,282	6484
Sawyer 5, sw nw ne ne 22-12n-3w	¶12-13,184	6459
Traub 1, ne sw sw se 22-12n-3w	¶20-14,135	6521
Superior Oil et al, Fraweis 1, se se sw se 22-12n-3w	¶24-14,712	6448
British-American, Hampton Place 2, nw nw nw sw 23-12n-3w	7412	6491
Barnsdall, Sunrise 1, nw nw nw 26-12n-3w	¶26½-17,416	6373
Phillips, Meadors 1, ne nw nw 26-12n-3w	¶19-2040	6423
Stiles Community 1, nw ne ne 34-12n-3w	¶12-5451	6475
K. & L. Pet., Harn 1, ne se nw 27-12n-3w	¶2-3794	6513
Sunray, State Land 4, nw ne nw ne 27-12n-3w	¶8½-13,476	6513
State Land 5, ne ne nw 27-12n-3w	6902	6507
Prichard, Stiles Community 1, ne nw ne 34-12n-3w	¶10½-5962	6524
Continental, Young 8, nw se nw 31-14n-3w	¶22-13,680	6708
OKMULGEE COUNTY—		
Hazlett, Dunbar 6, ce½ sw sw 30-14n-13e	30	1955
Ladd, Town 1-A, cel sw nw 27-15n-14e	6	1700
OSAGE COUNTY—		
Galt Brown 2, ne ne sw ne 14-24n-8e	25	2281
Harland Oil, 78, nw ne ne 25-24n-11e	2	1771
PONTOTOC COUNTY—		
McBride, Brentz 1, se ne sw 4-1n-6e	lcn.	abd.
Continental, McCarty 2, ne se nw 12-1n-7e	¶2 4/5-4223	4745
Monroe 1, nw sw nw 12-1n-7e	¶4¾-3702	4747
Magnolia, Norris 2, sw se se 21-2n-7e	¶64-3003	4315
Metropolitan Life 8, se se se 22-2n-7e	¶2 7/10-1466	4319
Moore, Moody 1, nw nw nw 26-2n-7e	¶3-3014	4320
Fleetborn, Wolley 7, se ne se 28-2n-7e	¶3 3/10-3399	4278
Magnolia, Burris "B" 5, ne se ne 28-2n-7e	¶2-2998	4285
Woolley 3, nw ne ne 28-2n-7e	3054	3701
Moore, Craddock 4-A, sw sw sw 29-2n-7e	¶2-4355	4420
Crosbie, Hardin 1-B, nw se ne 30-2n-7e	¶4½-738	3665
Madison Pet., Killcrease 3, sw nw nw 7-4n-8e (pb 2020)	*	2066
Benedum & Trees, Malloy 5, se sw sw 30-5n-5e	184	2278
POTTAWATOMIE COUNTY—		
Soverign Oil, Smith 1, se ne nw 6-6n-5e	lcn.	abn.
Sinclair Prairie, Walters 2, sw se se 13-5n-5e (pb 2370)	35	2602
SEMINOLE COUNTY—		
Phillips, Cravins 1, se se se 12-7n-4e	lcn	abd.
Fleetborn, Fleet 1, sw sw ne 12-5n-7e (pb 2945)	*	4215
Pine, Cheparney 2, ne se sw 12-5n-7e (pb 4210)	563	4420
Sinclair Prairie, King 1, se sw ne 12-5n-7e	1249	4182
Coddy 2, se ne sw 17-9n-7e	*	4131
Hylton Phillips, Fixico 1, ce½ ne ne 13-10n-5e	*	4634
Gulf Oil, Community Scott 1, w½ se nw 11-10n-6e (otd 4174)	1548	4193
Carter, Brock 1, ce½ se ne 15-10n-6e	3395	4193
STEPHENS COUNTY—		
Winkler et al, Bristow 1, se nw nw 18-2s-7w	*	2205
Raizen Bros., Crosbie 8, se sw se 23-1s-5w	4	683
Crosbie 9, se se sw sw 23-1s-5w	2	417
TULSA COUNTY—		
Gilmort Oil, Clinton 1-A, se sw se 32-19n-12e (pb 1678)	*	2347

*Failures; †Junked; ¶Million cu. ft. gas.

SHALLOW STRIKE
Jesse wildcat is a 165 barrel well at 800 feet

Tulsa.—Interest during the past week centered around one of three wildcat tests in Coal County, where Continental Oil Company's King 1, NE SW NE 26-1n-8e, drilled into the laminated Gilcrease sands at 790 feet and filled 420 feet with oil. The pay was from 790 feet to the present depth at 820 feet. Latest estimates place production around 165 barrels per day from a 30-foot strata. Sixteen bailers of oil were recovered in an uninterrupted run without tending to materially lower the fluid level.

Gas pressure released during testing of the well started a fire which damaged the rig and some of the floor equipment. The operating company is expected to move in a spudder near this well to go to the shallow pay, and to cary King 1 down to the deeper levels.

The location of this test is near Clarita and is on a direct trend from Jesse pool, six miles northwest. This sector has been favorably considered for some time, particularly since Fitts and Jesse were proved productive. Besides proving King 1 to be on a structural high that is good for shallow production, a greater significance is attached to the strike. Fitts pool of Pontotoc County, on a line to the north and west through Jesse, and considered to be on the same general trend, showed for comparatively large gas volumes from the Gilcrease sand at a shallow depth. Jesse pool also showed for slight gas in this sand, which is in the upper Pennsylvanian section. Continental Oil Company has acquired about 900 acres on this structure, adjoining leases being held by other majors.

Sinclair Prairie Oil Company's Culver 1, NE NE SW 16-1n-8e, a nearby wildcat location is drilling below the Atoka series near 2110 feet. Mike Mitchell's Quiett 1, NW NW SW 35-1n-8e, another wildcat in the same township, is drilling at 2000 feet. To the south of these locations, Carter Oil Company's James 1, SW NW SW 35-1s-8e, in the same county, is drilling below 2200 feet below Caney shale.

Continental Oil Company's McCarty 3, SW SE NW 12-1n-7e, in the Jesse pool of Pontotoc County, proved a Wilcox sand producer with 1051 barrels of oil and an estimated 10,000,000 cubic feet of gas through casing. Sunray Oil Company's Shumard 1, NE SW SE 2-1n-7e, is running 2½-tubing to obtain a potential. Continental Oil Company's Simpson 2, in the same section as McCarty 3, received a potential of 789 barrels per day.

Fleetborn Oil Company's Wooley 8, SW NW SW 27-2n-7e, along the east side of production in the Fitts pool of Pontotoc County, obtained a potential of 3240 barrels per day. It is producing from the upper McLish pay. Magnolia Petroleum Company's Simpson 9, NW NE NE 29-2n-7e, in the same pool was acidized with 10,000 gallons at 4345 feet and made 710 barrels of oil net in two hours. The Hunton lime well of the Samedan Company, Holkum 3-A, SE SW NE 27-2n-7e, was reacidized with 10,000 gallons to make 320 barrels of oil gross, from the Sylvan at 3591 feet.

R. L. Kemp's Lohaus 1, NW SW NW 21-17-5e, a wildcat in the extreme north of Lincoln County and south of Cushing, topped the Wilcox sand at 4007 feet and drilled to 4015. The well started to spray oil with about 4,200,000 cubic feet of gas and may indicate a small Wilcox pool. Failures previously drilled to the north and the limiting of the Agra pool to the southwest would tend to eliminate any chance for a large Wilcox area. Operators have shut in the test temporarily to erect tankage before drilling deeper.

Levy and Carney announced the location of a semi-wildcat to be drilled southeast of Cushing in Payne County. Location is at NWc SE 6-17n-6e, near present minor production of oil and gas, and is to be a Wilcox test.

Wildcats Hit

STATEWIDE INTEREST IN NEW FIELDS AND EXTENSIONS

WEEKLY STAFF REPORT

Wichita.—Operations in Kansas dropped somewhat from the high interest rate they have held for the past month. However, an Ellsworth County wildcat that showed the previous week definitely opened a new pool and the Cunningham field of Kingman County was extended. In addition, several wildcats drilled in during the preceding several weeks took official potential gauges and in most cases were satisfactory. Two gas wells on the northeast to southwest anticline running southeast of Lyons through Rice County are cleaning out and preparing to deepen. They have attracted considerable attention. A number of important wildcat tests are drilling at critical depths and will be early completions.

George Hinkle, Fred Jones et al's Myers 1, SW SW NE 18-17-10w, a wildcat location in Ellsworth County between the Stratman, Heiken and Becker pools and south of Breford pool on the Ellsworth-Barton County line, which filled to within 200 feet of the top of the hole last week, proved a new productive location. On first test for seven hours the well pumped 300 barrels from the Siliceous lime at 3312 feet. A west offset has been staked by Western Petroleum Exploration Company, Slick, Pryor and Lockhart and Darby Petroleum Corporation, who farmed the discovery to the Fred Jones interests.

Skelly Oil Company proved an important extension of the Cunningham pool of Kingman County. The location is southwest of proven production, and across the line into Pratt County. The well, Skelly Oil Company's Maxedon 3, CWL NW SE NE 25-27-11w, flowed 172 barrels natural from the Siliceous at 4150 feet and made 12,250,000 cubic feet of gas. The well may be deepened from the present depth of 4188 feet.

Rose Spring Drilling Company's Rick 1, SW SW 1-19-11w, south of the Straub pool of Barton, on the trend from Rice County's Silica production, proved an extension of Siliceous lime production. Rick 1 topped the Conglomerate at 3312 to find it saturated to 3316 feet, top of the lime. The well was shut down temporarily.

Continental Oil Company's Thompson 1, 13-18-26w, a wildcat test southwest of Aldrich near Beeler in Ness County, gave the Aldrich pool a mile and a half southwest extension. A potential of 555 barrels per day has been established for the well after being acidized with 4000 gallons at the total depth of 4462 feet.

Jones Brothers Drilling Company's Solomon 1, SEc SW 28-11-19w, which opened the new pool southeast of Hays, Ellis County, pumped 600 barrels on a potential test. Bridgeport Machinery Company's Madden 1, NE NW NW 26-15-18w, in the same county, which proved a new area new Ruder production, made 392 barrels on a potential test. This latter well is bottomed in Oswald lime at 3344 feet, where it was acidized with 2000 gallons.

New production has been proven for the area lying between Burrton pool of Reno County and Hollow-Nickle pool of Harvey County with W. C. McBride's test between these areas which found production in the chat. Location is in SW SE SE 36-22-4w. the top of the chat being found at 3257 feet and drilled to 3352 feet. On first test the well made 288 barrels of oil in 24 hours natural. After being acidized with 2000 gallons, another 24-hour test was good for 903 barrels pumping and flowing. There was no water with the oil.

In McPherson County, Continental Oil Company's Wenger 2, SW NW NE 32-21-1w, gave the Graber pool a minor Hunton lime extension to the south. Oil rose 1000 feet in the hole from 3296. The company is preparing to acidize. In the same county, Empire Oil & Refining Company's Cunningham 1, SEc 26-18-1w, north of Ritz-Canton production, has again recemented 8-inch casing. Operators expect to give this wildcat a thorough test this week.

Langdon pool of Reno County was given its sixth producer with the completion of Shell Petroleum Corporation's Whipple 1, CEL NE 16-26-9w, which flowed 2399 barrels during six hours of a potential test. Rated for a 24-hour period, the total potential allowed was 9039 barrels. This completion increased the total field potential to 49,771 barrels per day.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
The Texas Co., Moran 2, ne se sw 25-17s-11w	1549	3286
Sinclair Prairie, Isern 3, sw se sw 25-19s-11w	1449	3296
BUTLER COUNTY—		
Sooby Bros., Leydeg 1, se ne ne 18-23s-4e	52	2076
COWLEY COUNTY—		
McKnabb O. & G., Southwestern College 2, cse 11-32s-4e	lcn	abd.
ELLIS COUNTY—		
Harris & Haun et al, Schmeidler 1, se se sw 3-13s-17w	676	3362
Twin Drlg et al, Copeland 1, ne ne sw 26-14s-19w	410	3710
The Texas Co., Bertha 1, cw½ w½ se 5-12s-17w	135	3661
Palmer & Stormking, Ruder 5, ne ne nw 17-15s-18w	1367	3570
GREENWOOD COUNTY—		
Parrish & Landon, Moran 1, sw sw nw 15-24s-12e	lcn.	abd.
Coulter & Davidson, Proctor 1, ne sw se 16-26s-13e	25	1112
McPHERSON COUNTY—		
McPherson O. & G., Chindberg K 4, nw se nw 32-18s-2w	222	2331
NORTON COUNTY—		
Texas Interstate Oil, Phillips 1-9, cse 9-35-39w	¶113¾	2838
RENO COUNTY—		
Sinclair Prairie, Matlock 3, sw ne sw 3-24s-4w	1046	3602
Shell Pet., Welch 2, csw sw 9-24s-4w	1522	3404
Marathon Oil, Priddle 2 (Acct. 2), sw sw se 17-24s-4w	348	3371
Murray & Wallace, Regeir 1, se ne nw 20-24s-4w	1419	3382
Magnolia, Harris 2, nw ne sw 9-26s-4w	1115	4068
RICE COUNTY—		
Continental et al, Lansing "B" 3, sw se se 25-18s-8w	1996	3165
Keith et al, Doll 1, se ne sw 20-19s-9w	642	3289
Gulf Oil, Steckel 2, se se ne 31-19s-10w	1437	3297
Bradley Oil, Wendell 1-S, nw ne se 32-19s-10w	1675	3314
Empire, Proffitt 12, se se se 6-20s-9w	805	3259
Mid-Continent, Hartle 8, se se nw 15-20s-9w	974	3235
Herndon Drlg., Smith 2, se nw se 16-20s-9w	576	3275
Stanolind, Specht 4, ne sw ne 6-20s-10w	1680	3312
Darby Pet., Johnson 3, cs½ s½ sw 10-21s-7w	2443	3383
Skiles et al, Stout 1, se se se 6-21s-9w	*	3374
RUSH COUNTY—		
National Ref., Werth 1, nw ne ne 7-16s-18w	*	3624
Ira Keith et al, Dartmouth Savings Bank 1, sw sw ne 3-17s-18w	*	3705
Shell Pet., Shaffer 1, cnw 22-18s-16w	*	3577
RUSSELL COUNTY—		
Berry et al, Cook 1, ne ne se 19-11s-13w	*	3635
Gulf Oil, Ehrlich 4, sw nw nw 1-14s-15w	341	3316
Empire, Johnson 5, sw se ne 2-14s-15w	1093	3325
Johnson 6, nw se ne 2-14s-15w	1247	2526
Central Pet, Witt 2, se sw se 3-14s-15w	1494	3300
Witt 8, sw nw se 3-14s-15w	344	3135
Bridgeport Machine, Polcyn 2, ne nw ne 10-14s-15w	1248	3302
Coralena Oil, Sellens 1, sw se sw 20-15s-13w	598	3054
Southern Oil, Schaffer 2, nw ne ne 31-15s-13w	1396	3253
Beardmore et al, Karst 2, sw sw ne 27-15s-14w	253	3371
SEDGWICK COUNTY—		
Lauck, Parke 1, se se ne 17-25s-2e	*	3513
Aylward et al, Harrison 1, se se sw 23-25s-2e	*	3345
STAFFORD COUNTY—		
Stanolind, Komanek 3, se nw se 30-22s-11w	786	3569
Stanolind-Amerada, Elwell 1, sw sw ne 23-24s-13w	lcn.	abn.
SUMNER COUNTY—		
Pryor & Lockhart et al, Knowles 1, sw sw sw 30-30s-1e	*	4031
Lario & Barnsdall, Wenrich 9, nw sw ne nw 23-32s-2e (otd 2886)	*	3474
WOODSON COUNTY—		
Foster et al, Timm 1, se nw ne 36-25s-13e	*	1520
Sheedy et al, Fuhlhage 1, sw se sw 27-25s-14e	*	1650

*Failures; †Junked; ¶Million cu. ft. gas.

New Paluxy Field

FIND ANOTHER TALCO TYPE AREA IN HOPKINS COUNTY

WEEKLY STAFF REPORT

Tyler.—Recovery of about 20 feet of saturated oil sand from the Paluxy section of the Trinity by Dilworth Hager, Leon Russ and W. P. Luses' J. E. Worsham 1, northeastern Hopkins County wildcat south of the little inland town of Sulphur Bluff, ushers in a new oil field for northeast Texas along the Mexia-Talco fault trend. This prospective producer is about 16 miles west by south of the Talco field, which is now heading into a major development campaign for low gravity oil from the Paluxy near the 4300-foot level.

Cap rock overlying the Paluxy pay was logged at 4460-4465 feet by Hopkins County wildcat, and oil appeared with rotary returns immediately after penetrating the hard formation. Owners state that about 20 feet of good saturation was logged in coring to 4500 feet, or 4058 feet sub-sea where operations were halted July 2, to move in a string of 9⅝-inch pipe to make a production test. Location is near the northeast corner of 300-acre tract, A. O. Wetmore Survey.

In the absence of a more suitable identification the Hopkins County area has been dubbed the Wetmore area. Faulted structural conditions almost identical with those at Talco prevail, and in each instance a number of Woodbine sand failures drilled over a period of years provided subsurface information that led to the exploration of the Trinity. The Worsham test logged top of Georgetown lime near the 3600-foot level, and penetrated 900 feet into the lower Cretaceous, or the same interval as that prevailing at Talco. Dilworth Hager, consulting geologist, participated in the drilling of the majority of the Woodbine tests in the Wetmore area, and in the face of reversals still retains considerable lease and royalty protection. In contrast to the situation at Talco, there are no small leases in the vicinity of the Hopkins County prospect and acreage is controlled by majors and independents that are partial to orderly development and production with-drawals. E. B. Germany, president of C & G Oil Company, Dallas, an important lease and royalty owner has announced that he is ready to build a gathering line and tank car rack at Sulphur Springs in the event commercial production follows.

The entire Trinity series is slated to be tested by a wildcat to be drilled in southeastern Hunt County by Penn Oil Corporation, Elmer S. and Fox Wood, Oklahoma City parties, on a 5000-acre block assembled recently about five miles north of Lone Oak. Location is expected to be made on the Sally Owens Survey. Plans call for the drilling of a 6500-foot test, according to Fox Wood, and a 127-foot steel derrick has been moved from the East Texas field.

Tide Water Oil Company and Seaboard Oil Corporation's J. N. Edens 15, second Trinity test for the Cayuga field, Anderson County, logged top of the Georgetown lime at 4619 feet, or 4306 feet, and has cemented 9⅝-inch pipe at 4695 feet. It is located about 7000 feet southwest of the partnership's N. N. Wills 21-A, which is producing gas and distillate from lower Glen Rose section of the Trinity at 7210-7360 feet after plugging back from 9085 feet to 7416 feet. The latter logged top of Georgetown at 4520 feet, or 4212 feet sub-sea, and is 94 feet higher on structure, based on this lime marker, than the new test. Edens 15 was located with a view of testing the Trinity down dip from the gas cap found by Wills 21-A.

In the Camp Hill pool, Anderson County, Gulf Oil Corporation's M. J. Ross 1, Robert Erwin Survey, was temporarily halted late last week with drill pipe stuck in shale and lime at 6488 feet. This test failed to produce in the Sub-Clarksville and Woodbine sands, and is to try for production in the Trinity series. Top of Georgetown was logged at 5452 feet, or 4965 feet sub-sea.

Pure Oil Company's W. H. Faulkner 1, Wm. Elliott Survey, situated on the Mount Enterprise structure in southeastern Rusk County, was logging hard sandy-shale at 7468 feet. It has drilled beyond the equivalent of the deep pay zones at Rodessa and Cayuga, having topped Georgetown lime at 3446 feet or 2883 feet sub-sea, and first massive anhydrite at 5945 feet.

In northwestern Bowie County, Westmount Oil Company, Dallas, et al's R. N. Phillips 1, J. N. Hancock Survey, failed to produce from the Trinity series after drilling to 4004 feet, and has been abandoned. This wildcat entered Georgetown lime at 1533 feet, or 1193 feet sub-sea, and logged base of the anhydrite section at 2890 feet.

Talco Limited

FIELD WILL NOT COVER AS MUCH AREA AS THOUGHT

Mount Pleasant, Texas.—Unfavorable developments occurring in the Talco field within the past 10 days lessens the threat of a drilling orgy materializing that gave promise of rivaling that staged in the East Texas field. The Paluxy sand zone, which yields 25 gravity sulphur contaminated crude near the 4300-foot level, will not embrace as much territory downdip from the fault plane as originally projected, thereby eliminating a number of the 375 permits to drill approved in recent weeks by the Railroad Commission, including approximately 90 within the townsite of Talco.

Talco will stage a major drilling program, as sufficient acreage has been proved for production in the Paluxy by the completion of 11 oil producers, extending in an east to west direction for a distance of about five miles parallel with the fault plane. However, lease owners are becoming aware of the fact that the producing area will not be as great as originally forecasted in some circles, and that it may not be economical to carry out a close well-spacing program.

Independents invaded Talco with the idea of cracking down with a drilling campaign that would surpass early developments in the East Texas field, and nearly all permits called for the drilling of an average of one well to five acres.

Approximately 110 separate groups of independents have taken out permits to drill on the Talco structure, and only three majors have participated todate, although the latter control the bulk of the probable producing acreage. Presence of so many independents is due to the abundance of small tracts sandwiched in between large leaseholds and the distribution of ownership of townlots. Majority of these independents have prospered from development of small tracts in the East Texas field that were financed on the "cuff," and plunged into Talco to repeat.

Testing salt water with only a small volume of oil, Jones & Shelburne, Inc.'s Hazelwood 1, NEc of 10-acre lease out of 40-acre tract, I. P. Stern Survey, Titus County, indicates that the productive limits of the structure to the south of the discovery lease will not exceed one mile in width. This well logged top of Georgetown lime at 3511 feet, with an elevation of 342 feet, and first oil saturation in Paluxy was recorded at 4285 feet. The hole was carried to 4351 feet, or 4009 feet below sea level, and tested through 5½-inch pipe cemented at 4273 feet. After swabbing down, the well was credited with filling 1000 feet with salt water and 30 feet of oil in 12 hours.

Jule Alford, Trustee, et al's F. F. Fry 2, NEc of 27.43-acre lease, I. P. Stern Survey, located about 1½ miles south of the discovery well, was abandoned at 4346 feet, or 4013 feet sub-sea, after testing water in Paluxy at 4341-46 feet. Top of Paluxy was called at 4328 feet, with some evidence of oil saturation in the top portion of the sand. The first test

on this tract, drilled 1315 feet to the south, was junked at 4220 feet.

In the southwest extension area, Franklin County, J. B. Bond and J. Z. Werby et al's T. J. Sanders 2, located on north line of 42.3-acre lease, W. F. Dyer Survey, did not offer much encouragement for production in drilling into the Paluxy zone to 4344 feet, or 3985 feet sub-sea. Top of Georgetown lime was logged at 3424 feet. An electrical formation surveying tool revealed favorable oil saturation at 4223-4231 feet, and owners have since cemented 5 3/16-inch pipe at 4190 feet to make a swabbing test.

Earl Bateman Drilling Company and Al Ravenger's T. L. Phillips 1, NWc of N-38½-acres of 77-acre tract, Wm. Bridwell Survey, Franklin County and about 1¼ miles south of the projected course of the Talco fault plane, gave promise of making an oil producer after plugging back from water sand at 4357-4361 feet. This outpost was reported last week as having tested salt water and no oil when formation tester was used at 4282-4361 feet. The hole was then bottomed at 4003 feet sub-sea, or the same as the two deepest flowing wells drilled east of the discovery producer. Phillips 1 was plugged back to 4343 feet last week and on drill stem test yielded about 800 feet of oil and 300 feet of drilling mud, as determined by running thief in drill pipe, which was stuck while coming out of the hole. Hollandsworth Drilling Company's A. O. Brown 1, center of 52/100-acre lease in W½ Block 41, Talco townsite, is credited with having flowed 43 barrels oil per hour from Paluxy zone at 4170-4347 feet.

Open New Pool

WOODBINE PRODUCTIVE IN A HOUSTON COUNTY TEST

Palestine, Texas.—South portion of the Woodbine sand belt in East Texas scored an important extension when preliminary gauge given Ellison, McBride, Haberle and Thornton's J. E. Bean 1, located about 1½ miles northwest of Grapeland, Houston County, indicated a flow of approximately 20,000,000 cubic feet of gas with a spray of distillate. Production was developed from Woodbine at 6027-6033 feet, and is the first deep strike for the county. It is about 15 miles south of the Camp Hill field, Anderson County, which produces high gravity oil from Sub-Clarksville and Woodbine sands. The Houston County prospect establishes a new depth record for production from the Woodbine, and opens up a large area for exploratory drilling that already commanded high rating on geophysical surveys.

Formation tester was used on the Houston County test on June 28 with packer set at 6027 feet. The tool was opened for three minutes. The drill pipe carried a small amount of distillate and crude when the formation tester was removed from the hole. Further testing was deferred until late last week owing to the death of a son of one of the owners of the well. Bean 1 is located at center of the northwest 40-acres of 160-acre tract, Eli Steadman Survey, and on a drilling block contributed by Empire Oil & Refining Company. The latter retained offset acreage to the east and west, while Sun Oil Company, Magnolia Petroleum Company and Phillips Petroleum Company also own offset protection.

Pecan chalk was logged at 4645-4894 feet in Houston County's first Woodbine sand producer. Austin chalk was recorded at 5610-5961 feet, with an elevation of 482 feet. About 66 feet of Eagle Ford shale was encountered between the base of the lower chalk and the Woodbine series.

Houston County has been given greater consideration as a possible source of important production from the Woodbine since the drilling of Housh & Thompson, Inc., and Zeni Oil Company's Houston County Timber Company 1, I&GN Ry. Survey No. 31, A-599, two miles north of Kennard. This wildcat was junked at 7385 feet last December after logging an unusually good body of sand in the Woodbine section topped at 7312 feet, with an elevation of 383 feet.

In the northwest portion of Houston County, Walter Goldston and Humble Oil & Refining Company have moved in materials to proceed with the drilling of a wildcat near Reynard and on the B. W. Burns tract, Juan la Revier Survey, A-49. Shell Petroleum Corporation and Humble Oil & Refining Company are each reported to be planning tests on their respective wildcat blocks in the northeast portion of Houston.

T. J. Wood, Houston, et al's J. E. Huggins 1, NWc of 80-acre tract, Levi Jordan Survey, Cherokee County, has provided a two-mile southwest extension for the Rusk pool, but is flowing more salt water than oil. Producing from Woodbine sand at 5182-5186 feet, with an elevation of 457 feet, this outpost flowed 180 barrels fluid, including 70 percent bs&w, through tubing chokes varying from 1/16- to 3/32-inch in diameter. On the second day the well gauged 282 barrels fluid, including 55 percent salt water, through 3/16-inch choke. Pressure on tubing was 300 pounds and 250 pounds closed in pressure on casing. Wells in the main portion of the pool have been of this type, but continue to make their allowable in spite of the presence of water.

Tom Sharp and Paul Gunther's E. E. Lamb 1, located on 95-acre tract, Jas Sparks Survey, about three miles southeast of Streetman, Freestone County, was eliminated as a potential producer in Woodbine when salt water was found in sand section at 3375-3378 feet. Top of Woodbine series was called at 3340 feet.

EAST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Centex Oil Corp., Pace 3-C (11.63-ac)	800	3819
Champlin & Bass, Inc., J. R. Alford 4 (6.95-ac)	4000	3755
Cook Drl. Co., F. J. Cox 4 (18-ac)	4500	3671
Cope et al, J. Ector 1 (13¾-ac)	80	3511
Elsep Oil Co., E. L. Pinkston I-C	240	3625
Gulf, Mayfield 11-C (103.28-ac)	7000	3668
Harry Hanbury et al, J. H. Sharp-Marathon 5 (112.32-ac)	6500	3718
Humble, Blackwell 47 (325.79-ac)	6000	3670
Jackson, Wise & Snedden, J. H. Stewart 6 (27½-ac)	4600	3745
R. J. McMurrey et al, H. Roberson 13 (145.8-ac)	2500	3798
Magnolia, A. T. Tyiska 12 (87.31-ac)	4200	3816
Marathon, H. Clay 21 (113.56-ac)	240	3648
T. W. Medlin et al, Mayfield 7 (82.91-ac)	3000	3783
Perot Oil Co., B. D. Sealback 1-B	500	3590
Petroleum Mkt. Corp., C. L. Graham-Marathon 2-D (80-ac)	5000	3696
Peyton Bros. et al, J. T. Nichols 5 (30.41-ac)	*	3715
Pitzer & West, L. S. Sartain 3 (20-ac)	850	3782
Sinclair Prairie, Mayfield 68-A (374.74-ac)	2400	3784
Stroube & Stroube, Russell 3 (17-ac)	6400	3795
Sun, O. W. Knight 30 (272.9-ac)	3600	3625
Texas Canadian Oil Corp., Geo. Brown-Marathon 1 (73.33-ac)	*	3689
Texas Canadian & J. F. Wright, Edgar Pace 6 (24.23-ac)	2000	3815
Wemack Oil Co., Arnold-Lacy 8 (97-ac)	480	3685
KILGORE AREA—		
Adams & Lyles-Coffield, R. L. Williams 3 (8 1/3-ac)	3000	3591
J. Berens et al, M. Kennedy 6 (20-ac)	40	3672
Bowles Oil Co., D. Wells 15 (100-ac)	1000	3708
Dyck Oil Co., Blackman 7 (50-ac)	1500	3681
Empire, Lockhart 11 (75.11-ac)	5400	3525
Gulf, H. C. Alexander 31 (201-ac)	5300	3550
Murko Oil & Roy. Co., H. P. Hale 3 (80-ac)	240	3467
Sinclair Prairie, A. A. King 57-A (356.7-ac)	5200	3547
Texola Drl. Co.-United E&W Oil Co., J. E. Choice 3 (51.53-ac)	750	3703
Winston Oil Corp., Paul Jones 10 (58-ac)	6000	3697
Witco O. & G. Co., J. M. Blackburn 6 (106-ac)	1500	3660
LONGVIEW AREA—		
Arkansas F. O. Co., Burnsides 36 (209-ac)	9000	3658
Gulf, M. O. Sheppard 44 (335-ac)	8000	3504
Humble, T. B. & T. D. Harris 26 (175.18-ac)	5000	3532
E. C. & M. M. Johnston, C. F. Williams 3 (44-ac)	2000	3708
LG&S Oil Co., McQueen 14 (94.54-ac)	150	3603
Joe Papadakis et al, C. Beard 1 (50-ac)	†	3660
Red Iron Drl. Co., Victory 2 (20-ac)	30	3688
P. F. Rutledge-C. W. Boller, P. Todd 11 (155-ac)	600	3705
Stanolind, Cox-Hamon 9 (72.68-ac)	8500	3530
Pet Hopkins 17 (100-ac)	7300	3545
McKinley 41-B (60.7-ac)	7000	3596
Sun, G. W. Tate 9 (64.8-ac)	9000	3576
Tide Water, Castleberry 22 (202-ac)	3200	3597
Tide Water-Leon Russ, Flewellen 21 (200-ac)	4700	3720
Tide Water-Stanolind, Tuttle 14 (95.8-ac)	7300	3549
TITUS COUNTY (Talco Field)—		
Jule Alford Tr. et al, J. F. Fry 2 (27.43-ac)	*	4346
Hollandsworth Drl. Co., A. O. Brown 1 (0.52-ac)	1000	4347
W. P. Luse et al, Sullivan 1 (4-ac)	†	3748
VAN ZANDT COUNTY (Van Field)—		
Pure Oil Co., Blackstock 7 (40-ac)	103	2914
BOWIE COUNTY—		
Westmount Oil Co. et al, R. N. Phillips 1 (115-ac)	*	4004
KAUFMAN COUNTY—		
J. M. Scott & J. B. Woodside, E. Robinson 1 (80-ac)	*	2510
HARRISON COUNTY—(Waskom)—		
Geyer Oil Co., Vincent 3, Co-Ord S-13	¶1½	985

*Failures; †Junked; ¶Million cu. ft. gas.

Acid Helps

GAINES COUNTY DISCOVERY WELL ENLARGES OUTPUT

WEEKLY STAFF REPORT

Midland.—Crude yield of Landreth Production Corporation's Kirk 1, south central Gaines County wildcat strike, made several weeks ago, increased to about 100 barrels on daylight swabbing tests after treating dolomite lime formation at 4707-4820 feet with 3000 gallons of acid solution. Production was not appreciably boosted when first treated with 1000 gallons of acid. The well is making about one-half million feet of sulphur gas daily. The gravity of the oil has stepped up to about 28 degrees, or similar to that produced in other fields in the north portion of the Permian Basin.

Performance of Landreth Production Corporation's discovery, the first oil well for Gaines County, gives rise for belief among geologists that it is near the edge of the structure. The well will be deepened in the near future, as it is probably 100 feet above the projected water table for the area, based on correlations with a dry hole to the southwest and a junked gasser near Seminole.

Humble Oil & Refining Company's Wales Eubank 1, C SW SW Section 6, Block AX, PSL Survey, located about eight miles northwest of Gaines County's first oil well, was drilling in salt below 2600 feet late last week, having topped anhydrite markers at 1790 feet. Based on shallow geological markers, it is registering a high structural position for the general area.

Bill Dunning et al's Cummins 1, recent northwest extension completion for the Goldsmith field, Ector County, boosted its flow to 788 barrels daily after 200-quart nitro shot in lime at 4210-4310 feet. Showing made by this well will result in considerable field work on nearby acreage, besides the ambitious drilling campaign projected by the well owners.

In the North Cowden field, Ector County, Sun Oil Company's Wight 6-A registered an initial flow of 701 barrels after nitro shot at 4274 feet. The latter has made location for Wight 1-C, NWc S1½ Section 14, offsetting production in the same field, but actual work has been held up by the rig builders' strike.

Shell Petroleum Corporation's Leck 1, NEc SE¼ Section 32, Block 74, located 1½ miles west of prolific production in the Henderson field, Winkler County, suspended drilling at 3211 feet, or 352 feet sub-sea, after failing to encounter oil or gas in the regular dolomite lime horizon. This failure proved a sharp dip in the reef type structure to the west. R. H. Henderson et al's Leck Gulf 1, located in northeast corner of same section, was drilling below 2800 feet, and is also checking low on structure.

On the east flank of the Sayre field, Magnolia Petroleum Company's State Walton 2, NWc Section 5, Block B-3, tested water when formation testing tool was used at 3352 feet, or 433 feet sub-sea, and the hole has been plugged back to 3314 feet for a shot.

LIME PRODUCER

Texaco's Stevens, Young County, proves block

Wichita Falls, Texas.—An initial yield of 637 barrels of oil and 4,687,000 cubic feet of gas was established by The Texas Company's R. A. Stephens 1, second completion on the company's 2350-acre block in east central Young County, after using 2000 gallons of acid solution in lime formation at 4057-4083 feet. It is located near the center of the northeast 40 acres of Section 1985, TE&L Company Survey, and about 2000 feet west of the company's W. C. Burns 1, which proved the block for deep production in April, 1933, with a 140-barrel flowing well.

Oil saturation found in broken lime and chert formation near the 4094-foot level by Port Bolivar Company's O. G. Durning et al 1-A, Collin County wildcat, has resulted in a temporary suspension of activity to correct titles on nearby tracts. Sun Oil Company is reported to have acquired about 800 acres of lease protection around the well.

In Grayson County, Olson Drilling Company et al's Southwestern Life Insurance Company 1, J. C. Jamison Survey, was drilling at 5315 feet late last week after plugging back from 5890 feet and installing whipstock to drill by several sections of drill pipe.

Two deep tests are getting started in Montague County. East of Nocona, T. W. Eason and Grisso Royalty Corporation, Enid, Oklahoma, have made location for a 4000-foot test to be drilled on the E. A. Jordan 416-acre tract, T. R. Jackson Survey. Sinclair Prairie Oil Company, Gibson and Jennings have moved in rotary to drill a 6500-foot test about six miles east of Nocona and on the Holt tract, NWc Block 45, Kaufman County School Land Survey A-407.

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
Dyke Oil Co., L. C. McConnell 4...	605	3300
Humble, T. B. Haggard 3.....	310	3241
Magnolia, Raymond Harrah 14.....	405	3208
Niapa Oil Corp., W. B. Henry 3...	323	3293
Pampa Prod. Co., L. M. Harrah-Gulf 6	336	3225
Parton & Holt, Morse 1-F.....	20	2670
Skelly Oil Co., G. H. Saunders 2-B.	140	2850
HUTCHINSON COUNTY—		
Huber Pet. Co., Sanford 2-C, sec 77.	¶33.4	2755
Stansylvania Oil Co., J. A. Stansbury 4	20	2869
Harry Stekoll et al, Perkins-Dial 3..	393	3030
MOORE COUNTY—		
Anderson-Kerr Pet. Co., C. H. Jacobsom-Conoco 1	¶43.3	3499
WHEELER COUNTY—		
Wilcobur Oil Co.-Williams, R. L. Harlan 1	¶12.9 104	2553

*Failures; †Junked; ¶Million cu. ft. gas.

GAS OIL SURVEY

Ratio tests to be taken in several Texas areas

Austin.—Gas/oil ratio surveys of all wells in West Texas, West Central Texas, and the Gulf Coast were ordered by the Texas Railroad Commission last week. A special form for reporting the ratio of each well has been provided, and operators in these districts will be required to file reports of their production during the month of July and August, indicating the ratio of each well.

These reports will be filed with the E. B. reports of production which are required each month.

HENDERSON ORDERS

Austin.—Rules providing for 10-acre spacing in the Henderson field, Winkler County, were issued by the Texas Railroad Commission last week.

The commission provided two casing programs, one of which will allow operators to produce gas along with the oil through a bradenhead, if they choose to do so, and the other requires that the second string of casing be set in the Rustler lime and cemented there.

WEST CENTRAL TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
L. Ehlinger et al, Armstrong 3.....	*	1433
CALLAHAN COUNTY—		
Leland Fikes et al, Jackson 4.....	62	996
Hornbeck et al, Hutchinson 1.....	*	1244
Schultz Oil Corp., Barr 1.....	*	1606
SHACKELFORD COUNTY—		
Evans-Pardue & Christie, Morris-Buie 1, ...	10	1610
R. F. Gilman et al, Jeter 16.....	10	923
Humble, Nail 4, sec 150.....	40	1540
Reliance Oil & Roy. Co.-Jones-Stasney, Morris-Blue 2, sec 190.....	160	1594
Sandefer & Thompson, Alexander 1	35	1757

*Failures; †Junked; ¶Million cu. ft. gas.

PLAN SHUTDOWN

Distress oil is cause of Hawley field agreement

Abilene, Texas.—Three largest operating units in Hawley field, Jones County's most prolific oil area with multiple producing horizons, have agreed to suspend development work when the current list of active tests are carried to the completion stage, according to reports. The shutdown plan is to remain in effect until a larger market and proration quota are available, as considerable distress oil has existed for several months while operators carried on competitive drilling programs on adjoining leases. The field has 33 producers, rated at 16,400 barrels daily, with an allowable of 2650 barrels daily. Wells producing above the 2000-foot level are given a top allowable of 90 barrels daily, while those in sand and lime formations below 2000 feet have a top allowable of 135 barrels daily. The principle owners of production are: Thomas D. Humphrey, Longview; E. A. Ungren and A. J. Frazier, Abilene; and N. H. Martin & Son, Wichita Falls.

The 2200-foot horizon is the most prolific high gravity oil source in the Hawley field, which is served by Humble Pipe Line Company and two independent refineries. Recent completions included N. H. Martin & Son's Henry Dorsey 3-C, which gauged 669 barrels oil in seven hours, flowing through a ¾-inch choke on tubing at 2210-2216 feet. Ungren & Frazier's Dorsey 5-C flowed 741 barrels oil in eight hours through a 2-inch tubing from pay at 2206-2217 feet.

N. H. Martin & Son's Mary & E. B. Spurrier 1, Jones County wildcat situated about 1½ miles northeast of Higgs pool, is showing for a 25-barrel pumper from Hope sand at 1921-1928 feet after passing up a small pumper in the Cook sand at 1830-1831 feet. It is located in SWc of Subdivision 1, W. C. Walker Survey.

John McKeon, Inc., Los Angeles, et al's C. C. Wourland 1, NWc SW NW Section 15, Block 21, T&P Ry. Survey, Fisher County wildcat, is reported to

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
L. T. Burns et al, S. B. Herron 1, sec 16	*	1144
Turbeville-Simms 6, blk 21	*	1087
Continental, Kinder 1, blk 5	*	2206
Hamer & Scholl, W. L. Andrews 4, blk 20	*	1099
Huggins Oil Co., H. Ford 14	10	1003
M. I. McLaughlin et al, W. C. Lemons 1, blk 3	*	845
Panhandle Ref. Co., W. R. Farmer 6-B, blk 8	4	1558
Regal Oil Co., L. F. Wilson 5, sec 1	20	1622
W. C. Young et al, T. V. Carr 2, sec 2437	*	1428
COOKE COUNTY—		
Moore and Regis Oil Co., F. J. Yosten 3	25	979
Schermerhorn Oil Co., M. Kessler 4, blk 5	84	1305
JACK COUNTY—		
C. C. Bloodworth et al, Stockyards Bank-Jackson 1, blk 5	*	600
Harper Pet. Co., S. B. Vanhooser 1.	*	2300
Iron Mountain Oil Co., W. H. Helvey 1	35	3054
MONTAGUE COUNTY—		
Arco Oil Co., M. Salmon 3-D	12	995
O. V. Beck et al, Davenport 20	55	1679
Conoco, N. J. Howard 30	33	1412
J. M. Holmes et al, H. D. Fields 1.	*	2532
Lesh & McCall, Cunningham 6-A	30	935
WICHITA COUNTY—		
L. T. Burns et al, Waggoner Bros. 11, blk 25	5	1555
Waggoner Bros. 13, blk 15	*	1545
J. N. Karstetter et al, F. P. Warren 3	2	578
G. V. Minnick et al, Martin Bros 1, blk 9	*	706
Geo. B. Ray et al, Robinson 2-A, blk 310	75	1926
Sussex Oil Corp., H. B. Hines-Hearne 6, sec 11	*	1600
Worth Oil Co., J. L. Jackson 5, blk 16	*	702
WILBARGER COUNTY—		
Lain & Simmons, A. Allison 1, sec 43	*	3511
Pettit & Terrell, R. L. Castleberry 1, sec 67	*	815
Staley-Wynne Oil Corp., Waggoner Est. 10-B, sec 25	25	1917
YOUNG COUNTY—		
F. E. Butler et al, C. W. Johnson 1.	*	555
C. G. Curtis & J. J. Bracken, Allar Co. 1	*	4400
Duncan et al, Benson 13, sec 1391	300	911
Gorsuch Oil Co., O. W. Matthews 20	25	756
J. E. McDonald et al, Jeffery 2, sec 58	20	835
Pet. Producers Co., C. E. Luton 2	40	679
Premier Inv. Co., D. L. Keith 1, sec 28	*	695
E. C. Reed et al, H. P. Cunningham 1, sec 3404	*	566
Sams & Myer, I. E. Self 1	20	734

*Failures; †Junked; ¶Million cu. ft. gas.

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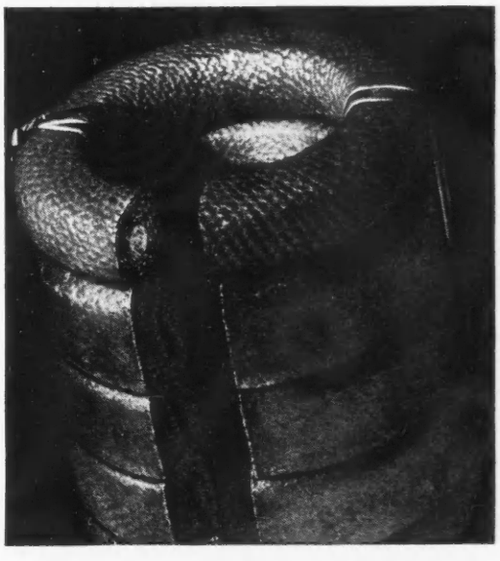

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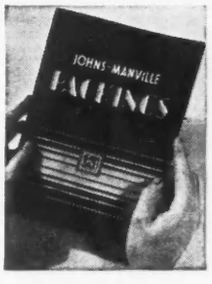

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have logged small showings of gas at 1492 feet, with an elevation of 2126 feet, and was drilling below 1550 feet, according to late reports. It is testing a structure about 12 miles west of Noodle Creek field.

Interrupted by a fishing job in the lower section of Ellenberger lime, Seaboard Oil Corporation's Julia Dawson 1, near SWc of BBB&C Ry. Survey No. 41, second test on the Pottsville structure, Hamilton County, will not be deepened to explore the Hickory sand member of the upper Cambrian, and has cemented 7-inch casing at 2911 feet to try for production in Ellenberger topped at 2991 feet, with an elevation of 1445 feet. In the event the latter formation fails to yield oil, the casing will be perforated in the Marble Falls lime to complete as a gasser. This test is 3500 feet north by east of the company's T. K. Rea 1, which was completed as a big gasser last March at 2455 feet to become the first producer in Hamilton County.

WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CRANE COUNTY (Gulf-McElroy Field)—		
Gulf, J. T. McElroy 135	738	2929
ECTOR COUNTY (North Cowden Field)—		
A. R. Eppenauer Drl. Co., TP Land Trust 1-B	165	4265
Sun Oil Co., Wight 6-A	701	4274
HOWARD COUNTY—		
Ennisbrook Oil Corp., Rhotan 9	925	2755
Owen M. Murray et al, J. P. Davis-Magnolia 3	998	2803
JONES COUNTY—		
Thos. D. Humphrey, H. Dorsey 15	425	2224
Lesh & McCall, Jennings 2	189	1951
N. H. Martin & Son, H. Dorsey 3-C	2500	2216
S. B. Roberts et al, A. S. Higgs 1	*	2030
Roeser-Pendleton Inc. et al, A. S. Higgs 2-B	*	1925
E. A. Ungren & A. J. Frazier, Dorsey 6	76	2008
Dorsey 5-C	2200	2217
PECOS COUNTY (Pecos Valley Field)—		
Joe Crump & Watson, Iowa Realty-Massie 3	14	1660
C. S. Messenger et al, Iowa Realty Trust Co. 1	*	1400
PECOS COUNTY (Torborg Field)—		
Cardinal Oil Co., Smith-Cornell 9-A	176	358
PECOS COUNTY (Yates Field)—		*
Marathon, I. G. Yates 14-H	48,528	1773
UPTON COUNTY—		
J. G. McKenzie et al, Taylor Bros. 1	*	630
WARD COUNTY—		
California Co., A. B. Gordon 26	399	2533
A. B. Gordon 30	3025	2522
S. Caprito-Atlantic O. P. Co., Miller-Coogle-Costley 1	*	2600
Mid-Continent Pet. Corp., R. O. Potts 2	295	2395
Sid Richardson Oils Inc., University-Sun 1-A	860	2768
WINKLER COUNTY (Brown-Altman Field)—		
Eastland Oil Co., Clapp-Pure 1	698	3130
WINKLER COUNTY (Gulf-O'Brien Field)—		
Sinclair Prairie, John Adriance 1	55	3124
WINKLER COUNTY (Sayre Field)—		
Sayre Oil Co., J. F. Howe 2-C	703	2990
Sinclair Prairie, J. B. Walton 2-B	1047	2993
J. B. Walton 3-B	1478	2997
Tide Water, J. B. Walton 4	1277	2868
WINKLER COUNTY (Scarborough Field)—		
Sid Richardson Oils Inc., W. F. Scarborough 3-B	1012	3000

*Failures; †Junked; ¶Million cu. ft. gas.

44 Below 5000 Feet

CORPUS CHRISTI AREA REACHES DEEP DRILLING CAMPAIGN

WEEKLY STAFF REPORT

Corpus Christi.—A deep drilling campaign in the Corpus Christi sector of South Texas Gulf Coast reached its highest level during the past week with 44 rigs running at depths of 5000 feet or below. The majority of the wells were at levels of 5600 to 5900 feet and in process of completion in deep sands.

Nueces County led the list with 23 below 5000 feet, the majority being in the western portion of the Saxet field where a new 5800-foot Frio sand is proving unusually prolific. Calhoun County added two to the list while Jim Wells County accounted for five. San Patricio and Refugio County each provided seven wells. These figures do not include nearly as many rigs running at shallower depths intended to test horizons from 5500 to 5900 feet in fields and wildcats projected to as deep as 10,000 feet.

M. F. Hurlburt et al's Phillips 1, 9 miles southeast of Corpus Christi in Nueces County, on July 3 flowed fresh water at end of 15 minutes and 35 gravity oil at end of 22 minutes on drill stem test through casing perforations at 6633-40 feet. Pressure was 30 pounds at end of test. Late in the day the tool was being taken from the hole preparatory to running tubing. The well had drilled to 7503 feet and ran electric formation test, following which it set 6850 feet of casing. The production is coming from the Marginulina zone which was topped at 6325 feet. The well is located in the center of Lot 9 in Section 48 of Flour Bluff Encinal Garden Tracts and is in a large block in which Humble Oil & Refining Company owns a half interest, Barnsdall Oil Company and M. F. Hurburt each a quarter.

With the above heavy drilling campaign comes a number of new deep discoveries and extensions to present producing areas. Coastland Oil Company and Keystone Royalties Company's Page Brothers 1, 3300 feet west of the Saxet deep production, plugged back from its abandoned level of 5856 feet to 3560 feet, sidetracked and drilled to 5931 feet, perforating casing at 5851-55 feet. The well is making considerable gasoline through small choke and showing pressures of 2100 pounds on casing and 2200 pounds on tubing. More than a mile southwest of the deep production, Mills Bennett's Ordner 1, found sand at 5508-20 feet showing oil, but the test failed. It has drilled to 5827 feet without finding the sand, but will continue to core.

Conroe Drilling Company's Morgan 1-B, located on the extreme southwest side of the deep field, drilled to 6518 feet, ran an electric formation tester, and is waiting on orders. It promises to open a new sand at around 6300 feet.

Southern Minerals Corporation's Mrs. M. B. Masten 2, north of the deep production, showed salt water in the 5800-foot sand, plugged back and is making an oil producer through perforations at 5751-55 feet, sand being recorded at 5748-60 feet. It is showing pressures of 450 pounds on the tubing and 1350 pounds on the casing. This sand has provided wet gassers in several wells, but this is the first well to show an appreciable amount of oil.

The deep development campaign in Saxet field brought nearly a dozen completions during the week, the total including several which are still experimenting with chokes before making official gauges.

O. W. Killam's Betty Ellich 1, one mile south of the discovery well of the Clara Driscoll field, Nueces County, which blew out and ran wild recently at 3899 feet, has been plugged back and completed as a wet gasser through perforations at 3258-68 feet. It shows 1380 pounds tubing pressure and 1450 pounds casing pressure. Ellich 1 is the first completion in this sand. The same operator has commenced Ellich 2, one location to the south. Santa Clara Oil Company is staking location for Clara Driscoll Sevier 3, indicating that this field's development will be carried on.

La Jita Corporation's W. E. Pope 1, SW Section 20, Jim Wells County, extended the Bentonville sand in the Bentonville-King district two miles to the north. The well topped sand at 5330 feet and is still in sand at 5351 feet. Casing is set at 5340 feet to cut off the upper gas sand. One mile south of the Bentonville discovery, Stanolind Oil & Gas Company's Thompson 1, drilled to 5405 feet, finding sand, shale and sandy shale from 5358 feet to 5390 feet, cap at 5390-93 feet, sand at 5393-99 feet, and shale to 5405 feet. Several attempts to make drill stem tests at 5390-5405 feet failed.

E. M. Jones' R. Adams 1, 1½ miles west of Alfred in Jim Wells County, is drilling in shale at 6175 feet after pumping down with commercial mud to kill an attempted blowout above this level.

Humble Oil & Refining Company and Plymouth Oil Company have provided an extension of approximately 1¼ miles to the southwest in the Heyser field, Calhoun County, with Mrs. E. H. Welder 2. The well showed 320 feet of oil, 90 feet of mud and 35 pounds pressure in 15 minutes on drill stem test at 5454-73 feet. Seven-inch casing has been set. The same companies have authorized the drilling of P. H. Welder 3 and probably will announce several more locations soon. Buchanan and Blanco Oil Company's P. H.

Welder 1, Palmer Survey, one mile northwest of the discovery well, is rigging up. Portilla Oil Company's P. H. Welder 1 is to make location.

Continental Oil Company's Vandenberg (Austin) 1, fourth test on the Seadrift heaving shale prospect in Calhoun County, drilled to 6614 feet, set 11¾-inch casing at 6598 feet, and is reworking the rig preparatory to drilling ahead with 8⅝-special type casing drill stem. Constant circulation will be maintained through the use of special valves.

On the extreme southeast side of the Edna Gas field of Jackson County, Steinberger Petroleum Corporation's S. G. Druschell 1 is drilling below 3125 feet. It is projected to 7200 feet, or the Cockfield.

Blowout Halts Traffic

National Petroleum Corporation's Missouri Pacific Railway Right-Of-Way test in Greta field, Refugio County, blew out from the 4400-foot sand June 29 and was finally controlled July 1. It delayed both rail and highway traffic, being only a few feet from each.

With the 5800-foot sand in the Greta and Fox fields and the Tomoconnor production being virtually merged, an increased amount of field work is underway. This Refugio County district was for a number of months well controlled by several companies, but the constant expansion of production has brought a number of leases into the play.

Over in San Patricio County, Benedum and Trees' Mrs. E. H. Welder 2, northeast of Sinton, is still trying to complete. After plugging back from 7019 feet to 5720 feet, tubing stuck. It has been pulled and will be rerun for continued tests.

Interest Revived

PETTUS DISTRICT OPERATORS ANTICIPATE GOOD MARKET

Beeville.—New wildcat showings in several counties, revival of drilling in a couple of dormant fields, and staking of more locations in unproven territory restore interest in the Pettus district. This high gravity oil producing sector of South Texas is in the better market season due to the high gasoline content of the crude, hence work should attain its higher level.

Zeni Oil Corporation's M. Lutenbacher 3, two miles south of Goliad in Goliad County, attempted to core the top portion of the Pettus sand at 5365 feet, but the well showed signs of heading under heavy gas pressure. It did, however, recover several inches of the core, which was sand and sandy shale with oil saturation. Casing has been set to bottom and the well will be drilled deeper into the pay.

The location is 330 feet from the north and west lines of the SW¼ Block 25, Goliad Town Tract Survey, and is several hundred feet from Lutenbacher 1, which blew out from the same sand and was abandoned when the drill stem stuck. If this is finally completed as an oil producer, it will be the deepest Pettus sand production in South Texas.

Adolph Douvre's San Antonio Joint Stock Land Bank 1, R. Everett Survey, two miles northwest of Three Rivers in Live Oak County, is being closely watched following a blowout in the upper Cockfield. Sand was encountered at 1784-93 feet, the upper portion carrying lots of gas and the lower portion salt water. Shale continued to 1799 feet, where the Pettus was topped. A core was being taken at 1799-1800 feet, consisting of saturated shells and sands, when the well blew out, running wild for two days and making between 20 and 25 million cubic feet of gas along with a large volume of salt water per day. It has been reconditioned and is being cored ahead.

Nearly a mile southwest of the discovery well of the Voss field, Bee County, Dirks Brothers' M. M. Bergel 1 was coring at 4038 feet late in the week and apparently running too low to make a producer.

H. A. Pressy's R. T. Hicks 1, J. M. Uranga Grant, several miles south of Ray field, also in Bee County, perforated casing in gas sand topped at 3482 feet and was attempting to complete. Depth is 3568 feet with casing set on bottom. This is in the Hockleyensis sand which produces in the Foley field to the southwest.

Houston Oil Company and Smith & Story each have moved in rigs and are drilling wells in the Mount Lucas area of Live Oak County. In addition, rigs are running in the Ray and North Pettus fields.

New Field Looms

ZAVALLA WILDCAT MAY BE ANOTHER PEARSALL POOL

San Antonio.—Bay Oil Corporation's National Bank of Commerce 1, 12 miles southwest of the Pearsall field, Frio County, was attempting to complete late in the week. Apparently it will make some sort of producer to open a new field on the Pearsall trend.

The well is bottomed in Buda lime at 6585 feet, but plugged back to 6250 feet in the Austin chalk. The first acid treatment after plugging back netted only a small amount of oil, so a shot was given preparatory to a final completion attempt.

The test is located in Section 43, Block A, AB&M Survey, 16 miles southeast of Batesville and in the extreme southeast corner of Zavalla County.

It has an elevation of 700 feet, derrick floor. Austin chalk was topped at 5717 feet, Eagleford at 6360 feet, Buda lime at 6440 feet. Oil shows were encountered from 5806-48 feet, 5923-43 feet and 6145-6200 feet in the Austin chalk at 6480-85 feet in the Buda lime. Casing is set at 5724 feet.

About seven miles northeast of this well and on strike, Amerada Petroleum Corporation's F. Doering 1, Frio County, one of the first wells drilled on this trend, is a gasser spraying some oil from the 6500-foot Edwards lime. Still farther northeast, Amerada Petroleum Corporation has several 5600-foot Austin chalk producers in Pearsall field. The two producing areas are believed to be separate. It is further believed that the Bay Oil Corporation's test is on a third structure on this trend.

Termo Oil Company of Texas is preparing to complete J. L. Arp 1, located one mile west of production in the Pearsall field. The well drilled to 5870 feet after topping chalk at 5502 feet. It has had considerable saturation and indicates a producer.

Red Bank Oil Company is preparing to start a second deep test to the Edwards lime on a Burleson County block in the extreme northeastern portion of the South Texas Balcones Fault zone. The well will be Nellie Grann 1, 2875 feet from the south line and 1500 feet from the east line of the Eliza Santef Survey, and about one-half mile northwest of the company's Crain 1. The latter well was abandoned early this year after showing oil, salt, sulphur water, and some gas in Edwards lime at 6300-6340 feet.

DISAPPOINTMENTS

Mirando district wildcats not up to expectations

Laredo.—Discouraging results are being obtained from several key wildcats in the Mirando district, which for several days gave promise of opening new producing areas. They, however, are continuing their testing in effort to finally bring about production.

C. G. Glasscock's Milano Land & Cattle Company 2, Section 88, about five miles southeast of Loma Novia field in Duval County, is shut down at 3293 feet in the Mirando sand after swabbing a small amount of oil.

Stanolind Oil & Gas Company's Ira Yates 5, southeast of the gassers in the Labbe field, has been abandoned at 2490 feet after showing salt water in the Labbe sand at 2468-76 feet.

Rogers & Rogers' R. S. de Pena 1, in the extreme southwestern portion of the county, is still swabbing and showing only a small amount of oil at 2862 feet.

Randon Oil Company's Central Securities Company 1, in the south cen-

tral section of the county, topped the Jackson at 2975 feet, Hockley sand at 3656 feet, and lower Government Wells at 3812 feet. None carried production, and the well is drilling ahead.

J. J. O'Hern has abandoned L. B. Carrillo 1, four miles south of the Hoffman field in Section 492, the well going to 3307 feet.

W. D. Masten has made location for D. Ruiz 1-A, 50 feet southeast of the recently abandoned Ruiz 1. The latter well drilled to 3003 feet, plugged back, and tested several upper sands without success.

Conservative Oil Company's Duval Ranch 1, two miles southeast of Colemena field, Duval County, tested salt water and oil through perforations at 1532½-36 feet and is now drilling ahead at 2052 feet.

Wildcats Dry

KEY TESTS IN RIO GRANDE VALLEY ARE ABANDONED

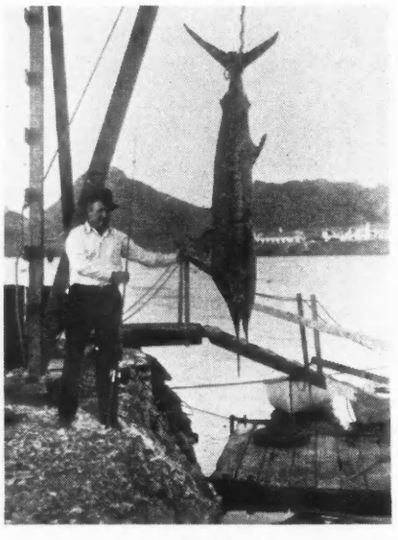
McAllen.—Several key wildcats in the Rio Grande Valley sector were removed from the probable production list when they were abandoned. Included in the list was Quintana Petroleum Corporation's J. C. Engelman 1, southeast of the Mestenas field, Hidalgo County, which was stopped at 8908 feet. The drill stem had stuck at about 7000 feet and derrick collapsed while attempts were being made to recover the pipe.

Union Sulphur Company's American 7, Mercedes field, deepened to 7595 feet after plugging back from 7608 feet. Three-inch liner has been cemented at 7300 feet. American 8 drilled to 7822 feet and is milling out to sidetrack at 7245 feet. American 9 has been abandoned as a failure at 7654 feet.

Gulf States Oil Company's J. C. Engelman 3, just east of the discovery well of the Mestenas field, Hidalgo County, has been completed as a gasser, spraying about 6 barrels of high gravity oil and a slight bit of salt water per day from perforations at 6688-96 feet. The flow is through 11/64-inch choke with a tubing pressure of 1350 pounds and a casing pressure of 2125 pounds. Depth is 6812 feet. It is the second producer for the field.

The deeper sand for Samfordyce field finally has been established as a commercial proposition by G. W. Wheeler's Farias 2, north side of the field, which gauged 165 barrels of oil per day through a small choke from perforations at 2832-51 feet. J. T. Barlow's Chapa 1, completed some time ago as a gasser in the lower sand, drilled ahead to 3200 feet, plugged back and has recorded the sand in sidetracked hole. It had sand at 2938-59 feet, shale at 2959-60 feet, and set 4½-inch casing at 2960 feet. It will perforate for production. Barnett Petroleum Company's Sheldon 3 has been abandoned at 3700 feet. Several other wells are active along this trend in both Hidalgo and Starr Counties.

One Starr County wildcat is holding considerable interest at this time, it being Larkins & Warr's Kelsey Bass 1, Porcion 87, in the Barbacoas area. The well encountered a cap at 5280-82 feet and is preparing to core in.



AL BUCHANAN

This San Antonio drilling contractor swings a mean fishing line, as indicated by one of his catches on a recent trip to Bay of California.

RECLAMATION PLANT

Permit sought to build a plant at Darst Creek

Austin.—Arthur C. Riddle of Lockhart has requested the Railroad Commission to permit him to construct a reclamation plant in the Darst Creek field, Guadalupe County.

At a hearing before the Railroad Commission last week this application was opposed by representatives of Gulf Oil Corporation, Humble Oil & Refining Company and The Texas Company, who declared that it would interfere with disposal systems now in operation. Riddle was unable to show the commission the probable source of the tank bottoms which he proposed to process. He had no contracts or committments to offer at the hearing.

Representatives of the companies opposing Riddle said that they preferred to burn these tank bottoms after treating them for recovery in their local plants.

SOUTH TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BASTROP COUNTY—		
Howell & Appleton, Herman Klemm 1, 1385 ft nel, 3185 ft sel in Richard Teal sur	*	1229
Texon Royalty Co., H. B. Smith 1, 1200 ft nel, 2450 ft nwl of E. Standifer sur	*	2502
BEE COUNTY—		
Dirks Bros., R. C. Harris 7, Dugat sur (Dirks)	350	3890
Sun Burst Oil Co., G. A. Ray 1, Blanchard sur (W. Tuleta) (formerly abnd. but reworked)	335	3929
BEXAR COUNTY—		
Nus Wald O. & G. Co., S. Wetz Estate 10, sur 53 (Von Ormy)	*	620
S. Wetz Estate 11, sur 53 (Von Ormy)	5	610
BROOKS COUNTY—		
Starr Dev. Co., Wm. Singer 1, sec 436 (Alta Verde) perf 810-25	¶3	1040
CALDWELL COUNTY—		
Chiquita Oil Co., W. W. Hickman 1, G. Hinds sur (Salt Flats) pb to 2661, 7-in csg 2271	12	2731
DUVAL COUNTY—		
Atlantic Oil Prod. Co., J. F. Welder heirs 3E, sur 102 (Seven Sisters)	325	2419
Darby Pet. Corp., J. F. Welder heirs 2A, sur 102 (Seven Sisters)	350	2440
Duval Oil Corp., D. Ruiz 4, sur 119, (Hoffman)	515	2888
Highland Oil Co., M. C. Hubberd 25, sur 72 (Loma Novia)	96	2809
Humble, A. H. Badgley 5, sur 307 (Seven Sisters)	400	2532
M. C. Hubberd 42B, sur 72 (Loma Novia)	450	2739
M. C. Hubberd 59B, sur 72, Loma Novia)	360	2762
D. Ruiz 13, sur 553, (Loma Novia)	238	2749
T. D. Smith 15, sur 382 (Seven Sisters	1300	2438
R. Serna, Jr. 12B, sur 384 (Seven Sisters)	*	2725
Magnolia, C. W. Hahl 42, sec 67 (Loma Novia)	288	2696
Bryan White 7, sec 64 (Gov't Wells)	*	2347
J. B. Peal, sec 72 (Lopez)	¶10 & 50	2112
W. D. Masten, D. Ruiz 1, 330 ft nel & nwl of 160-ac lse, sec 128 (Hoffman)	*	3003
Navarro Oil Co., J. F. Welder heirs 7, sec 383 (Seven Sisters)	400	2473
J. J. O'Hern, S. Benavides 3-A, blk 493, Hale Subd, Arispe Gr (Cole)	*	2903
L. B. Carrillo, 1980 ft nwl, 2069 ft swl sur 492 (Hoffman)	*	3307
Reliance O. & R. Co., C. O. Drummond 5, sec 308 (Seven Sisters)	1050	2524
Rogers & Rogers, J. D. Sutherland 3, sec 120 (Hoffman)	250	2900
Shell Pet. Co., Bishop Cattle Co. 4, sec 59 (Loma Novia)	300	2558
M. C. Hubberd 27, sec 77 (Loma Novia)	235	2728
Fred Shield, A. Hazelwood 2, sec 110 (Seven Sisters)	250	2500
Smith & Hamill, M. C. Hubberd 15, sec 77 (Loma Novia)	520	2664
M. C. Hubberd 18, sec 77 (Loma Novia)	545	2696
Standard of Kansas, W. K. Hoffman 5, sec 118 (Hoffman)	250	2880
Stanolind O. & G. Co., Yates Ranch 5, sec 416 (Labbe)	*	2490
The Texas Co., Hugo Wendt 46, sec 68 (Loma Novia)	670	2663
HIDALGO COUNTY—		
Barnett Pet. Co., A. E. Sheldon 3, porc 41 (Samfordyce)	*	3700
Gulf States Oil Co., John Engelmann 3, 200 ft el, 300 ft sl, lot 3, blk 70, Las Mestinas Gr (Mestinas) perf 6688-96	288	6812
Quintana Pet. Corp., John C. Engelman 1, 446 ft sl & wl of e½ of lot 10, blk 94, Las Mestinas Gr	*	8904
Union Sulphur Co., ARGL 9, tr 2275, blk 59 (Mercedes)	*	7654
G. W. Wheeler, Felipe Farias 2, sh 255, porc 39, Juris of Reynosa (Samfordyce) perf 2832-51	170	3200
LIVE OAK COUNTY—		
Windsor Oil Co., B. E. Stolte 1, center of tract 9, J. Ingram sur, abstract 261	*	3505

*Failures; †Junked; ¶Million cu. ft. gas.

Company, Well and Location	Init. Prod. Bbls.	Depth
NUECES COUNTY—		
Conroe Dr. Co., Frank E. Bliss 2, J. W. Stevens sur (Saxet)	800	5830
J. K. Culton, N. J. Cantwell 3, Villareal Gr (Saxet Heights)	565	4084
A. C. Erwin, Fee 1, blk 1, Oak Park Add (Saxet Heights) perf 4080-84	600	4126
Houston Oil Co., Mary McBride 1, Villareal Gr (Saxet Heights)	*	4096
Houston Oil Co., E. McGregor 2, sur 311, (Saxet) owdd, otd 4860	250	5834
O. W. Killam, Betty Ellich 1, 330 ft out of ne cor of 86.38-ac tr, sec 109 Pauls subd, Driscoll ranch perf 3258-68	¶25	3899
Morgan Gulf & Great States, Mary Humphries 1, J. W. Stevens sur 406 (Saxet)	1104	5823
Rand Morgan 4A, B. S. & F. sur 403 (Saxet)	515	5824
Port O. & G. Co., Country Club Place 4, lots 35 & 36 Country Club add (Saxet Hgts)	230	4086
Shell Pet. Co., Ed. F. Flato 3, blk 3, Sheppard Farm lots (Saxet)	325	4548
Terminal Oil Products, R. V. Thurman 1, 660 ft nl & wl of sw¼ of sec 10 Flour Bluff Garden tracts, Rincon Del Oso Gr.	*	6505
R. Y. Walker, G. C. Clark 3, blk 1, Oak Park add (Saxet Heights)	750	4070
Westgate Oil Co., Sturm Estate 5, Villareal gr (Saxet Heights)	350	4085
REFUGIO COUNTY—		
Local Oil Co., W. L. Rea 2, Refugio Town Tract sur (Refugio)	700	4924
Quintana Pet. Corp., Tom O'Connor 36A, blk 6, Quintana Subd, Swisher sur 5 (Tomoconnor)	1690	5901
United Prod. Co., Fannie Heard 13, lot 16, Refugio Town tract (Refugio)	288	4928
M. F. Lambert 25, blk 33, Swisher sur (Greta)	630	5894
N. J. Ryalls 8, lot 8, Refugio Town tr sur (Refugio)	580	4931
SAN PATRICIO COUNTY—		
Humble O. & R. Co., J. W. Mayo 3, J. H. Ottman sur (Taft)	625	4934
Plymouth Oil Co., E. H. Welder 49C, sec 49, Welder Ranch subd (Plymouth)	325	5653
STARR COUNTY—		
Bishop & Henshaw, W. D. Martin 1, 660 ft sl, 3803 ft wl, sur 627	*	3530
H. C. Harter Sanchez 2, 100 ft sl, 200 ft sl, lot 3, sh 72, porc 72	*	1103
VICTORIA COUNTY—		
Barnsdall, Felmont & American Liberty, Pickering & Roos 3, Brownson sur 3, ab 306 (Placedo)	575	4768
Crown Central Pet. Co., F. Gebrauer 3, J. N. Brownson sur, ab 382, blk 9 (Placedo)	408	4773
WEBB COUNTY—		
Mills Bennett, Elia Valadez 7, sec 111 (Lopez)	435	2219
French Oil Corp., S. Benavides 1, 330 ft sl, 990 ft et sur 2254	*	2242
Magnolia, S. Benavides 9, blk 6, sec 174 (Cole)	200	2836
S. Benavides 16, blk 495, Hale Subd, Arispe gr (Cole)	*	2952
G. G. Mortimer, F. L. Garia, sec 112 (Lopez)	550	2228
ZAPATA COUNTY—		
Clover O. & G. Co., Alice P. Haynes 15, blk 7, Haynes subd, Comitas & Villa gr (Comitas)	38	896
Gilcrease Oil Co., A. P. Haynes 3B blk 4, Comitas & Villa gr, Haynes subd (Comitas)	35	955
Ivan Howard et al, Y. Martinez 2, 330 ft nel & nwl of sur 241	*	2511
The Texas Co., Whitehead 80, Cerrito Blanco gr (Escobas)	33	1278
ZAVALLA COUNTY—		
W. L. Bridges, E. B. Flowers 1, 1320 ft nl & wl of sec 19, blk 1, I. & G. N. RR. sur	*	450

*Failures; †Junked; ¶Million cu. ft. gas.

COMPRESSION PLANT

Shreveport, La.—United Gas Public Service Company has laid foundations for its $2,000,000 compression plant in the Rodessa field in Section 29-23n-16w, and some of the machinery has arrived. Some of the pipe for a proposed 24-inch gathering system to feed the plant has also arrived.

Willis Watched

WELL YIELDS GAS AND SALT WATER FROM THE COCKFIELD

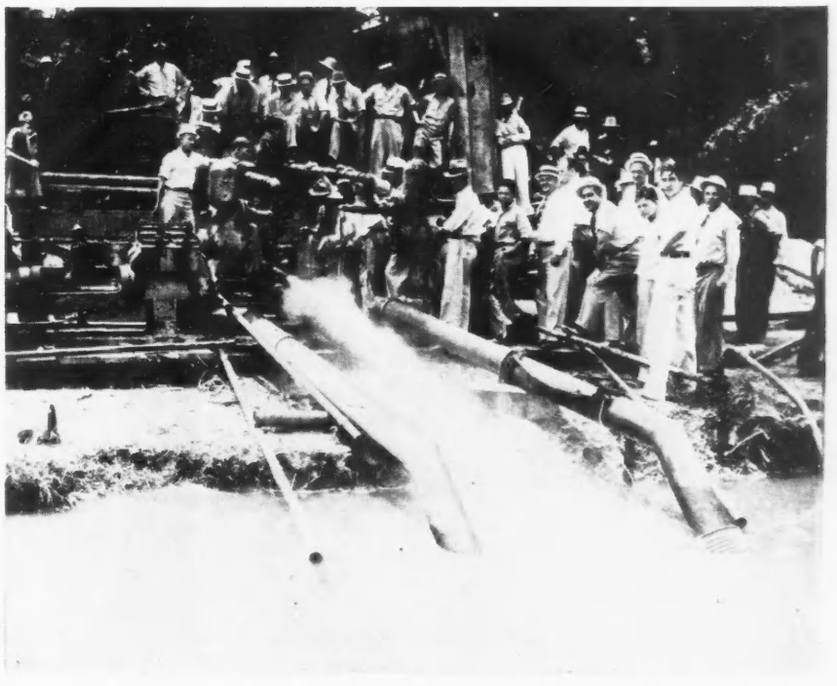
GULF COAST

WEEKLY STAFF REPORT

Houston.—Evidence was shown last week that the Willis area of Montgomery County may produce oil when W. O. Belnoski's Wood 1, Wm. Weir Survey, came in as a gas and distillate producer, performing in the same fashion as Charles Gholson's Parks 1, which made gas and distillate in August, 1935, and then was abandoned. Wood 1 was making gas, distillate and salt water at the end of the week from the Cockfield formation at 3757 feet. The operators will probably plug back to 3745 feet to shut off salt water.

A drill stem test of Wood 1 made from 3737 to 3747 showed 10 feet of oily mud and a 180-pound working pressure in 15 minutes through a two quarter-inch chokes. Previously, a drill stem test from 3660 to 3737 feet showed four joints of mud and a 200-pound pressure in eight minutes through two quarter-inch chokes. After taking the drill stem test at 3747 feet, Wood 1 was cored down to 3757 feet, and sand and shale with shows of oil and gas was recovered.

The operators decided to make a production test and set seven-inch casing at 3720 feet. Wood 1 would not flow naturally. The swab was run to 1600 feet and the well started flowing through a quarter-inch choke, making basic sediment and water. The afternoon of June 28, the well came in making gas and no oil. Tubing pressure was 500 pounds and the casing pressure was 480 pounds. The next afternoon the well started making a small amount of distillate through a quarter-inch choke. That same evening Wood 1 decreased in the flow of distillate and started making a head of the high gravity oil every six minutes. Tubing pressure was 890 pounds and casing pressure was 1130 pounds. The morning of June 30 the well was placed on a quarter-inch choke and it made a small head of distillate every four minutes. Tubing pressure was 920 pounds and casing pressure was 1110 pounds. At this time the operators shut the well in. When it was opened the pressure on the tubing increased to 1080 pounds and the casing pressure went to 1350 pounds. After placing it on a quarter-inch choke Wood 1 started making heads of distillate and finally froze the connections. The well was shut in, and was opened later, it made a head of



W. O. Belnoski's Wood 1, William Weir Survey, five miles northwest of Willis, Montgomery County, blowing gas while being tested.

distillate with a brown color and then started making salt water.

Rumors in Houston were that Belnoski's Wood 1 had opened a new Gulf Coast oil field. However, it is not classed as the discovery well, but one of the many wells which have shown gas and distillate in the Willis area. Charles Gholson's Parks 1, in the same area, on a drill stem test from 3711 to 3765 feet showed gas and distillate. The pressure was 360 pounds. The well was shut in and the pressure went up to 1000 pounds. Later the well was sold to an independent operator who reworked it and was reported to have recovered around 200 barrels of oil. Mid-Texas Oil Company drilled a well in the Willis area which also showed for a gas well and was finally abandoned.

New Location at Nome

Lacky et al have made location for Garth 1 in the Nome area in Jefferson County. It is located 400 feet northeast of Shell Petroleum Corporation's Carpenter 1 and in the center of the east half of Lot 24 in A. Horton Survey.

Shell Petroleum Corporation's Carpenter 1, M. Pevito Survey, was drilling in sand below 6300 feet. This wildcat has been coring slowly and taking a number of drill stem tests since a test made of sands at 6005 to 6023 feet showed 33 stands of 26.1 gravity pipe line oil and an 80-pound pressure. A test made from 6033 to 6047 feet in 10 minutes showed 180 feet of pipe line oil, 60 feet of mud and no pressure. A core taken from 6047 to 6055 feet failed to show anything. On a drill stem test from 6090-6116 feet the well showed salt water and 165 pounds pressure.

Sun Oil Company's Broussard 1, La Belle prospect, J. Blackmon Survey, Jefferson County, was drilling ahead below 9008 feet at the end of the week after running an electrical logging device to 8937 feet, where a gas sand was encountered. The operators cored below the gas sand and found salt water.

Green's Lake Discovery Abandoned

Sun Oil Company's Hughes 1, Green's Lake discovery well, W. C. M. Baker Survey, Galveston County, has been temporarily abandoned at 3620 feet in the Plio-Miocene formation after showing for production a number of times and failing in each instance to produce pipe line oil without encroachment of salt water. The operators will wait until Hughes 2, 933 feet northeast of Hughes 1, tests the Plio-Miocene sands before going back into the hole to rework it. Rig from Hughes 1 will be moved to Sun Oil Company's Houston Farms Development 1, two miles southeast of Hughes 1, in the D. Buckley Survey, Galveston County.

Like Hughes 1, Sun Oil Company's Craig 1, east flank of the Hawkinsville dome, T. Williams Survey, Matagorda County, is encountering considerable trouble in shutting off salt water. Craig 1, the first well to produce oil in commercial quantities, and also classed as the discovery well for Hawkinsville, is pulling screen and liner to perforate for the second time around 5150 to 5175 feet. The second set of perforations will be higher than the first because the operators want to take in a little more gas sand in order to lift the oil out.

Anahuac Field Extended

Humble Oil & Refining Company's White B-1, northwest of production at Anahuac field, J. McGehey Survey, Chambers County, was completed last week to extend the field in the northwesterly direction. White B-1 came in making 24 barrels of 33.5 gravity pipe line oil from sands at 7092 to 7104 feet after the liner had been perforated with 24 shots. The oil was flowing through a quarter-inch choke with a tubing pressure of 850 pounds; casing pressure was 338 pounds.

On the east side of the field, Humble Oil & Refining Company's Lord 2 was running liner preparatory to making a production test of Marginulina sands at 6963 to 6981 feet. The hole was originally drilled to 7164 feet in salt water sand before being plugged back and sidetracked at 6821 feet.

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANAHUAC—		
Humble, White 1-B	576	7104
CONROE—		
Alpha, Royalty 1	569	5037
DICKINSON—		
Stanolind, State 4	264	8125
GREEN'S LAKE—		
Sun, Hughes 1	*	3620
HASTINGS—		
Humble, Cannon 5	744	6020
Stanolind, Drake 5	586	5744
HIGH ISLAND—		
Stanolind, Cade A-52	375	5986
MANVEL—		
Texas Co., Lieder 4	150	4022
RACCOON BEND—		
Humble, Sanders 5	*	4171
TOMBALL—		
Humble, Townsite Unit 2	600	5587
Treishel 5	385	5563
POLK COUNTY—		
Turnbull & Irwin, Roberts 1, Ace Area, J. F. DeRumayor sur.	*	5282
JEFFERSON COUNTY—		
C. H. McSpaddin, Burrell 1, Cheek area, Wm. Smith sur.	*	7795

*Failures; †Junked; ¶Million cu. ft. gas.

Turnbull & Irwin's Roberts 1, 4225 feet east of Alpha Petroleum Company's Roberts 1 and south of the Ace field, J. F. De Rumayor Survey, Polk County, was abandoned last week below 5282 feet in Yegua shale after failing to pick up the sand which was found in Dick Schwab's Kirby Lumber Company 1-A.

C. H. McSpaddin's Burrell 1, Cheek area and Lovell Lake prospect, Wm. Smith Survey, Jefferson County, was abandoned last week after twisting off the drill pipe near bottom. The well stopped at 7795 feet in Marginulina formation. It is reported that another test will be drilled in the area.

Interesting Gulf Coast Locations

Bunte Oil & Gas Company has made a wildcat location on the Bammel prospect in Harris County. N. M. Graves 1 is 450 feet west of the east line and 550 feet north of the south line of the west half of C. Walters Survey and of the Graves 625-acre tract. The wildcat is in the area where American Liberty Oil Company drilled a number of dry holes.

Titts & Harris will drill a wildcat east of Blessing in Matagorda County. J. E. & M. D. Pierce Estate 1 is 600 feet south of the north line and 900 feet west of the east line of the Pierce Subdivision, Block A, Lot 23, J. W. E. Wallace Survey.

Stanolind Oil & Gas Company has made location for State 3 in Turtle Bay field, Chambers County, 330 feet west and 351 feet south from southeast corner of the Middleton 102-acre tract, Lot 40, S. Burnery Survey.

Smith & McDannald's Lamb is a new location at South Houston field, Harris County. Stanolind Oil & Gas Company also made location for Johnson 1 in the same field. It is 285 feet west and 150 feet south of the northeast corner of a 4.35-acre lease in Tract 47, South Houston Garden Subdivision 7.

Pickett Ridge Extended

Pickett Ridge field, Wharton County, was extended in a northwesterly direction last week when Harry Edward's Farmer 1 was completed for 10 barrels per hour through a quarter-inch choke from 4701 feet. Tubing pressure was 550 pounds; casing pressure was 800 pounds. Farmer 1 is 4950 feet north and 125 feet east of southwest corner of Section 39 in I. & G. N. Survey.

The Texas Company was completing two producers in the Pickett Ridge field at the close of the week. Pierce Estate A-23, was drilling plugs and running screen. The hole was drilled to 4709 feet and seven-inch casing was set at 4702 feet. Pierce Estate A-24 was drilled to 4713 feet and seven-inch casing was cemented at 4705 feet. At the close of the week the operators were drilling cement plugs.

Stanolind Oil & Gas Company completed State 4 in Dickinson field, Galveston County. It came in for 200 barrels in 20 hours through a quarter-inch choke with a tubing pressure of 600 pounds and a casing pressure of 800 pounds. The well was completed at 8125 feet.

Ken Ben Oil Company has made its second location in the southwest portion of Dickinson field. Maco Stewart 2 is a south offset to Coast Petroleum Company's Maco Stewart 3 and is 330

feet south of the north line and 660 feet east of Stewart 1 and 1210 feet west of the road in the W. K. Wilson Survey.

Skelly Oil Company's Langham 1, 1800 feet southeast of production in Van Vleck field, Matagorda County, was circulating at the end of the week at 8248 feet after coring oil sand from 8243 to 8248 fet. The well also cored oil sand from 8210 to 8219 feet. If the well proves a commercial producer it will extend the field and will be the second well to produce from the deep sand at Van Vleck.

DRILLING RETARDED

Wildcat work hampered by rains and storms

San Antonio.—Continued rains and heavy storms along the South Texas Gulf Coast have hampered drilling, especially in the wildcatting districts. Reports from various districts along the lower portion of the coast were to the effect that the heavy winds had blown down a number of derricks.

Along the Balcones fault trend, heavy rainfalls brought rivers out of their banks and flooded many areas. The floods extended southward to the coast.

The roads in many instances became impassable, and wells were shut down awaiting fuel supply.

323 TEXAS STARTS

Austin. — The Railroad Commission last week approved permits for the drilling of 323 new wells in Texas, 72 less than were allowed the week before.

East Central Texas reported the most new permits from any one district. There were 85 locations for new wells in the Talco field, 78 of which were in Titus County and the remaining 7 in Franklin County.

East Texas operators obtained 86 permits, of which there were 49 in Gregg County, 18 in Rusk County, 13 in Upshur County, and 6 in Smith County.

In the Gulf Coast area 57 locations were made, which included 15 in Nueces County, and 10 in Harris County, Southwest Texas reported 41 permits, with 17 in Duval County.

West Texas operators listed 26 new locations. There were 12 from West Central Texas and 6 from the Panhandle.

21 LOUISIANA PERMITS

Shreveport, La.—Twenty-one drilling permits were issued last week by the minerals division, Louisiana Conservation Commission, of which 14 were for North Louisiana, divided among the following parishes: Bienville, one; Bossier, one; Caddo, 10, of which nine were in Rodessa; Rapides, one; and Webster, one. Those in south Louisiana were divided among the following parishes: Acadia, one; Calcasieu, two; Cameron, one; Iberia, two; and La Fourche, one.

Lafitte Extended

FLANK PRODUCER FINDS OIL HIGHER THAN OTHER WELLS

Lake Charles. — Lafitte field, the deepest producing area in the Louisiana Gulf Coast, was being extended 1168 feet east last week when The Texas Company's Lafitte 1, 1168 feet east of Lafitte 3, Section 20-17s-24e, Jefferson Parish, was being washed in from the deep sand at 9399 feet.

Lafitte 4 was drilled to 9420 feet, and oil sand was logged from 9387 to 9399 feet. After setting 7⅝-inch casing with 1000 sacks of cement, the plugs were drilled. Lafitte 4 encountered the oil sands higher than any well in the Lafitte field.

The crew drilled The Texas Company's Rigolets 4 to 9406 feet in sand and ran an electrical logging device which showed sand and shale with shows of oil from 9358 to 9400 feet. It is reported that the operators will set 7⅝-inch casing and make a production test. Rigolets 4 is south of Lafitte 4 and 1065 feet east of Rigolets 3, Section 29-17s-24e.

Seeking honors for a new producing depth for the Louisiana Gulf Coast, Continental Oil Company's Hebert 1, Abbeville prospect, Section 20-12s-3e, Vermilion Parish, at the end of the week was drilling in shale at 10,335 feet. The well will have to go below 10,750 feet before it is considered the deepest in the Gulf Coast. Shell Petroleum Corporation's Jarnigan 1 in the Roanoke field, Jefferson Davis Parish, holds the record at 10,750 feet.

Continental Oil Company will carry Hebert 1 on down and give the 8000-acre Abbeville prospect a thorough test before plugging back to test upper sands which have shown oil. The operators reamed 9⅞-inch hole to 10,226 feet and are drilling with a four-inch drill pipe. This well is the sixth well on the Louisiana Gulf Coast to penetrate formations below 10,000 feet.

Deep Sand Extends Jennings

Shell Petroleum Corporation entered the ranks of producers in Jennings field, Acadia Parish, last week when Conover 1 came in as a commercial producer and extended the field around 2000 feet southeast.

Conover 1, Section 40-9s-2w, was making 226 barrels of 38.1 gravity oil at the end of the week through a 14/64-inch choke, with a tubing pressure of 2650 pounds and a casing pressure of 2925 pounds. The gas/oil ratio was 996 to 1. Conover 1, producing from Marginulina sands, is deeper than any other well and is producing from the Marginulina at Jennings. After topping the oil sand at 7524 feet the hole was carried on down to 7545 feet in sand showing oil. Seven-inch casing was cemented at 7530 feet.

Activity in Jennings field, which was the first producing field in the Louisiana Gulf Coast and which has produced by far more oil than any field in the area, probably will be revived by Shell Petroleum Corporation's Conover 1 as several major and independent oil companies hold acreage in the vicinity. Shell Petroleum Corporation worked around the flanks of the field in 1935 with torsion balance and reflection seismograph and made a selection of over 2000 acres. Sun Oil Company has also been active around the flanks of the field and doing geophysical work and taking spreads of acreage.

After extending St. Martinville field and finding a new producing sand Continental Oil Company's Fee 1 is producing pipe line oil and is holding up its rate of flow. Fee 1 came in the previous week from sands at 7344 to 7353 feet, and at the close of the week was making 256 barrels of oil per day through a quarter-inch choke. Tubing pressure was 675 pounds and casing pressure was 2050 pounds. The operators are testing the well on various sizes of chokes.

Magnolia Petroleum Company's Homeseekers 1, Esterwood prospect, Section 54-10s-1w, Acadia Parish, has been abandoned.

After drilling Homeseekers 1 to 9456 feet and twisting off the drill pipe, an electrical logging device was run to the bottom of the hole. Twelve ohms resistivity was shown in sands from 5870 to 5890 feet. Samples will be taken of the sands to see if oil is in evidence and if so casing will be run for a production test.

The same operator's Alvin Hebert 1, half mile east of the discovery gas well at Big Lake in Cameron Parish, was plugging back at the end of the week and will make a test of sands which showed salt water the previous week. Casing was set at 8603 feet and the wildcat flowed salt water with a trace of oil.

Union Sulphur Company has made location for Kauffman 1 east of the English Bayou field, Calcasieu Parish. It is located 1550 feet south and 250 feet east of the center of Section 13-9s-8w.

SOUTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GILLIS—		
L. & T. Oil Co., Buhler 1	360	5256
JENNINGS—		
Shell, Conover 1	226	7545
LAKE BARRE—		
Texas Co., State Lake Barre 40	1415	3788
ST. MARTINVILLE—		
Continental, Fee 1	256	7354

*Failures; †Junked; ¶Million cu. ft. gas.

El Dorado, Ark.—J. E. Shatford has acquired the 2000-barrel refinery of the Ouachita Valley Refining Company at El Dorado. Premier Refining Company of Longview, Texas, and Octane Refining Company of Bath, Texas, have taken an option to buy the 3000-barrel refinery formerly owned by Simms Oil Company at Smackover but was recently bought by Louisiana Iron & Supply Company. Both are skimming and cracking plants.

Double Extension

RODESSA PRODUCTIVE AREA PROJECTED WEST AND NORTH

NORTH LOUISIANA

WEEKLY STAFF REPORT

H. & L. Well Shooters have proven the three-point advantage of shooting stuck drill pipe: SPEED, ACCURACY and ECONOMY . . . . It's fast because they finish the job with a single shot, using 100% Gelatine, and you're ready to pull. It's accurate because a measuring line, carrying a "feeler" at the shot tube, tells exactly the depth of the shot and its position in the joint. It's economical because a lot of time is saved, and the charge is very reasonable.

Operated in conjunction with H. & L. Cutting Tool Service.

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GOOSE CREEK, TEXAS, U.S.A.

M. C. WOMACK (Phone 89) Thibodeaux, La.

Shreveport, La.—Rodessa was extended slightly on opposite sides of the producing area last week and added eight producers during the seven-day period ending July 1. Rodessa as an oil field will be one year old on July 12.

Three-eighths of a mile west of production in Cass County, Texas, United Production Corporation completed Cunningham 1, Wilson Robinson Survey, at 6123 feet flowing 30 barrels of oil per hour through half-inch tubing choke with a casing pressure of 580 pounds and a tubing pressure of 180 pounds.

One-fourth mile north of production in the northeast offshoot of the field, R. W. Norton completed Atkins 3, SW SE 7-23n-15w, at 6042 feet flowing 28 barrels per hour through quarter-inch tubing choke, with a casing pressure of 300 pounds and a tubing pressure of 750 pounds.

In the Rodessa townsite area in lot 6, block 12, Section 23-23n-16w, Tri-State Oil and Gas Company resorted to use of 3000 gallons of acid to complete Westbrook 1, flowing six barrels per hour through one-eighth-inch tubing choke at 6027 feet, with a casing pressure of 500 pounds and a tubing pressure of 1000 pounds.

R. W. Norton completed three other wells in the field as follows: Foscue 3, NE NE 29-23n-16w, a south edge well, completed at 6010 feet flowing 21 barrels per hour through 3/16-inch tubing choke; Elder 2, Section 23-23n-16w, completed at 6064 feet, flowing 11 barrels per hour through 1/16-inch tubing choke; and Levee Board A-6, Section 21-23n-16w, completed at 5982 feet flowing nine barrels per hour through 1/16-inch tubing choke.

Other wells completed were: Arkansas-Louisiana Gas Company, Rodessa 13, Section 22-23n-16w, completed at 5996 feet flowing 35 barrels per hour through half-inch tubing choke with a casing pressure of 640 pounds and a tubing pressure of 300 pounds; Standard Oil Company of Louisiana's Lawton 17, Section 14-23n-16w, completed at 6024 feet flowing 111 barrels per hours through open tubing and 65 barrels per hour through 32/64-inch tubing choke with a casing pressure of 410 pounds and a tubing pressure of 125 pounds.

Vaughn Production Company's Hunter and Derryberry 2, Section 11-23n-16w, a north edge well, was re-completed after plugging back 10 feet to 6014 feet and was treated with 3000 gallons of acid, coming in flowing 20 barrels per hour through half-inch tubing choke.

One half-mile northeast of Lion Oil Refining Company's J. M. Wynn 1, NE SW 9-23n-15w, one mile northeast outpost gas-distillate producer, Red Iron Drilling Company made location for J. T. Means et al 1, SW NE 9-23n-15.

Six new locations were announced in Cass County, Texas, approximately two miles west of American Liberty Oil Company's Rambo 1, J. H. Rives Survey, four-mile southwest outpost well. These locations are: Spray Oil Company's S. W. Echols 1, center NW four acres of 25-acre tract, S. B. B. & C. Railroad Survey; The Leonard Company's S. W. Echols 1 and 2, nine-acre lease in 25-acre tract, same survey; J. A. Read, Echols 1, center northeast four-acre tract, same survey; R. C. Burdick's Echols 1, center southwest four-acre tract of 25-acre tract, same survey; and O. M. Foss' Echols A-1, center SE four acres of 25-acre tract, same survey.

Three outpost tests in Cass County logged top of the anhydrite at the following sub-sea depths: Marathon Oil Company's Willis 1, 4824 feet; Showers and Moncrief's Stallcup 1, 4804 feet; and Superior Oil Company's Stallcup 1, 4779 feet.

Wildcat leasing is still going on to some extent on the Sabine Uplift and in the North Louisiana Basin. In the Basin in Bienville Parish, near the Webster Parish line, in the lower part of Township 18 north, Range 8 west, O. G. Collins of Shreveport has been taking some leases. The Texas Company took 80 acres in fee in the south half of NE quarter Section 10-14n-7w, and H. L. Brown has assigned several hundred acres to a major company in Township 14 north, Range 6 west and 15 north, Range 7 west.

E. A. Stiller and associates of Shreveport have blocked approximately 8000 acres in Township 20 north, Range 12 west, Bossier Parish, but no drilling obligation is involved until August, 1937.

Arkansas-Louisiana Gas Company has a geophysical party working in Townshi 18 north, Range 14 west, Caddo Parish. In Webster Parish, Amereda Petroleum Corporation has a geophysical art working in Township 23 north, Range 10 west.

Lide & Greer last week cemented seven-inch OD casing at 6551 feet in Simmie Gardner 1, Section 10-17n-4w, after an unsatisfactory drill stem test at 6508-74 feet showed drilling mud and some gas. Previously the well had shown 10 million cubic feet of wet gas in a drill stem test at 6483-98 feet. This is in the Travis Peak. The test is five-eighths of a mile north of the same operators' Fowler 1 in the same section that was completed for a large wet gasser at 5300 feet. After completion of this test these operators are reported planning a 9000-foot test on their Davis Lumber Company block in Bienville Parish, where they recently completed a 70,750,000 cubic foot gasser at 5800 feet, in Davis Lumber Company 1, Section 12-16n-5w.

Martin & Langford, on a 3600-acre block on the southwest flank of the old Homer field, Claiborne Parish, last week were rigging up for White 1, SE SE 26-21n-8w. While the drilling obligation is only 3500 feet, the operators plan to set 16-inch surface casing and make a deep test if commercial production is not found above 3500 feet.

PERMIAN SALT

Snow Hill tests all show some contamination

WEEKLY STAFF REPORT

El Dorado, Ark.—A gauge last week of Phillips Petroleum Company's J. D. Reynolds 1, Section 27-15-15, Ouachita County, discovery well at Snow Hill, showed 320 barrels of net oil and 20 barrels of salt water with tubing pressure 675 pounds, in 24 hours.

Phillips Petroleum Company's Arnold 1 in the same section after topping lime at 4915 feet with elevation of 207 feet in a drill stem test showed three joints of mud, well rocked up 300 pounds pressure through ¼-inch choke. It is estimated for a good gasser. Lion Oil Refining Company's Reynolds-Berg 1, Section 28-15-15, with elevation of 105 feet, cored saturated lime with a salty taste at 4871 to 4891 feet and is arranging to core ahead.

Standard Oil Company of Louisiana's Reynolds B-3, Section 27-15-15, in a late gauge last week through ½-inch tubing choke, made 67 barrels of oil and 6,500,000 feet of gas with tubing pressure 900 pounds and casing pressure 1150 pounds. Only 0.01 percent of the yield was salt water but there was 4 percent basic sediment.

American Liberty Oil Company's (John Pugh) Hildebrandt 1, Section 28-15-15, with elevation of 162 swabbed salt water and oil after plug in 7-inch casing was drilled at 4904 feet; total depth is 4914 feet.

Abandon Deep Hole

Next to the deepest test ever drilled in Arkansas was abandoned last week as a salt water hole in Ohio Oil Company's Bodcaw Lumber Company 3, NW NW 20-16-23, which reached what was identified as top of the Permian lime and was abandoned at 7707 feet where it tested salt water with a show of gas. Before being abandoned the hole was plugged back to 3525 feet and another test made with the same results. Elevation was 250.3 feet.

Next to Gulf Refining Company's Werner Sawmill Company 49, Section 5-16-16, Union County, on the west flank of the Smackover field, which went to 7987 feet before being abandoned, this was the deepest test in Arkansas.

In the leasing play that has developed in South Arkansas and Northeast Louisiana as a result of discovery of wet gas at top of the Permian lime in the Snow Hill area, Tide Water Oil Company last week was reported to have taken a 90-day option on 57,000 acres of land owned in Morehouse Parish, Louisiana, by the Louisiana Coop-

ARKANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LA FAYETTE COUNTY—		
Ohio Oil Co., Bodcaw Lbr. Co. 3, 20-16-23	*	7707
HOT SPRINGS COUNTY—		
R. E. Morris, Morris & Lang 1, 19-6s-17w	*	930
OUACHITA COUNTY—(Camden)—		
Rhoda Armstrong, Bragg 1, 25-13-18	*	1403

*Failure; ¶Million cu. ft. of gas.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH—(Rodessa)—		
Ark-La Gas Co., Rodessa 13, 22-23n-16w	2000	5996
R. W. Norton, Atkins 3, 7-23n-15w	3000	6042
Foscue 3, 29-23n-16w	2000	6010
Elder 2, 23-23n-16w	2000	6064
Levee Board A-6, 21-23-16w	1500	5982
Standard Oil Co. of La., Lawton 17, 14-23n-16w	3000	6024
Tri-State O. & G. Co., Westbrook 1, 23-23n-16w	1000	6027
CASS COUNTY, TEXAS—(Rodessa)—		
United Prod. Corp., Cunningham 1, Wilson Robinson sur	2000	6123
CADDO PARISH—(Pine Island)—		
Falcon Oil Co., Dickson 15, 12-20-15	*	2349
GRANT PARISH—(Urania)—		
Acadian Prod. Co., Swope B-1, 18-9n-1e	30	1606
SABINE PARISH—(Zwolle)—		
A. H. Tarver, Baker 2, 36-8-12	*	5225
The Hunter Co., La. Long Leaf Lbr. Co. 39, 33-8n-11w	*	2717

*Failure; ¶Million cu. ft. of gas.

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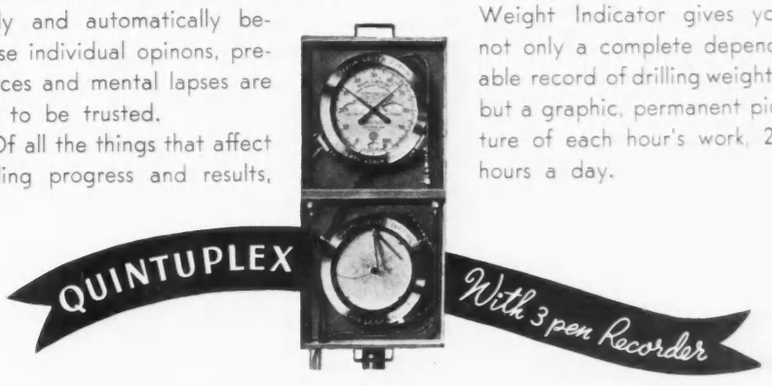

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erage Company, Bonita Lumber Company and the Kimball Estate.

Geophysical activity continues in South Arkansas. In Columbia and La Fayette Counties, Superior Oil Company's seismograph unit is working in townships 18, ranges 22, 23 and 24. In Nevada County, Stanolind Oil & Gas Company has a seismograph unit working around the old Irma field in townships 13 and 14, range 20. In Ouachita County, around the old Mount Holly shallow field that produced from 2800 feet in a few wells in 1929, Phillips Petroleum Company is doing seismograph.

Magnolia Petroleum Company is doing detail work in the Urbana district, Union County, around Section 6-18-13. In the same county near the town of Huttig, Stanolind Oil & Gas Company has a seismograph unit working and Amerada Petroleum Corporation has a shooting crew working around Section 30-16-14.

STATE TO DRILL

Mississippi board plans early work

SOUTHEASTERN STATES — WEEKLY STAFF REPORT

Jackson, Miss.—Early action is expected by the commission headed by Govenor Hugh L. White in the matter of drilling several gas tests and one test for oil on 1320 acres of state-owned land in and around the Jackson gas field. The last legislature appropriated $115,000 for this campaign. The commission handling it is composed of the governor, the attorney general, land commissioner, state geologist and supervisor of the state oil and gas board.

There was one completion last week in Mississippi, a test just east of gas production in the Jackson field being abandoned as a salt water hole at 2695 feet. This is Cleve Love and Associates' Williams 1, located 100 feet west and 475 feet south center SE 7-5n-2e; elevation was 279.5 feet.

Magnolia Petroleum Company is paying rentals on several hundred acres of scattered leases held in Clarke County, east central Mississippi.

Final details are being cleared, it is reported, for Sun Oil Company to make an early location for a test on a block it owns in township 4 north, range 15 west, Lamar County, south Mississippi.

In Mobile County, Alabama, Grand Bayou Oil & Gas Company made location for a test in Section 24-7s-3w.

SOUTHEASTERN STATES
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MISSISSIPPI		
RANKIN COUNTY—(Jackson)—		
Cleve Love et al, Williams 1, 7-5n-2e	*	2695

*Failure; ¶Million cu. ft. of gas.

Strike Nears End

OTHERS BRINGING PRESSURE ON RIG BUILDERS, REPORT

NEW MEXICO — WEEKLY STAFF REPORT

Hobbs, N. M.—Stacking of rotary rigs in Lea County's active drilling centers continued on a large scale the past week as result of the rig builders' strike remaining at deadlock. The walkout occurred June 10, and no new derricks have been erected since the strikers attempted to force a $2 hike in their daily wage scale. Reports indicate that the strike will be terminated shortly, as several strike leaders have been forced to retire from the area for fear of physical violence that has been threatened by workmen in other branches of field work. Each rig stacked deprives approximately 15 crew-men of work and their normal incomes, while many men on allied jobs are similarly affected.

Lea County accounted for 12 producers and two failures the past week. During the same period locations were authorized for six new tests, but actual work will be deferred until the strike is settled.

Sparsely explored territory in the south portion of South Jal field contributed a prolific well the past week when Continental Oil Company and The California Company's Eaves 2-A-19, C SW SW 19-26s-37e, flowed 60 barrels oil hourly through 2½-inch tubing from lime at 3113-3200 feet. The gas volume was estimated at 1,500,000 feet daily. The hole is bottomed at 262 feet below sea level. The well is an offset to the partnership's Eaves 1-A-19, which was completed in January, 1929, as a big gasser at 3002 feet.

Magnolia Petroleum Company's State-Bridges 1, SW SW NW 13-17s-34e, wildcat producer completed in the Lovington area by Vacuum Oil Company in August, 1929, from dolomite lime at 4900 feet, was opened June 30 and flowed 100 barrels oil by heads in 12 hours, with favorable gas pressure. This well has been inactive since its completion as a 130-barrel pumper, owing to the absence of a market outlet. The new owner will condition the hole to develop sufficient production in supplying fuel for the drilling of John Scharbauer 1, C NW NE 29-16s-35e, a wildcat project recently announced by the company. The latter is about five miles northeast of State-Bridges 1 and eight miles southwest of Lovington.

C. & G. Oil Company and The Texas Company's Ellen Weir 1, C NE NE 14-20s-37e, situated about three miles east of Monument field, is credited with having encountered a small amount of sulphur water above the Hobbs field lime pay at 4045 feet, and registered oil saturation at 4075 feet. It had previously proved capable of 10 barrels oil and 3,000,000 feet of gas daily after acidizing sandy-lime at 3955 feet. The Texas Company's E. L. Alexander 1, C NW SW 7-21s-37e, located 1½ miles northeast of nearest production in the original Eunice field and same distance northwest of a semi-wildcat producer, has been completed as a small producer after acidizing sandy-lime pay at 3750-3835 feet. On completion gauge the well flowed 24 barrels oil, plus 34

MOUNTAIN STATES
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MONTANA		
GLACIER COUNTY—(Cut Bank Field)—		
Cobb & Pardee, Stufft 1, se nw 25-36n-6w	¶13	2925
Montana Power Gas Co., Seeba 4, sw sw nw 2-34n-6w	56	2890
Spencer-Cloutier, Tweedy 3, ne sw 25-33n-6w	65	2982
Texas Co., 2 Unit 9, csw ne 9-32n-5w	78	3090
PONDERA COUNTY—(Valier Area)—		
Texas Co., 1 Unit 1, cne se 32-31n-5w	*	2902
WYOMING		
BIG HORN COUNTY—(Byron Field)—		
Ohio Oil Co., Byron-Union 4, csw ne 25-56n-97w	288	5700
NEW MEXICO		
LEA COUNTY—(Eunice Field)—		
Conoco-California Co., A. E. Meyer 6-A-18, c nw ne 18-21s-36e	5000	3950
A. E. Meyer 12-B-4, c lot 6, 4-21s-36e,	300	3860
Devonian Oil Co., State-Heasley 4, C lot 5, 5-21s-36e	250	3875
Gen'l Crude Oil Co.-Magnolia, State 2-E, c ne sw 32-21s-36e	40	3967
Gulf Oil Corp., State-Arnott-Ramsey 7-C, cw nw ne 21-21s-36e	660	3914
State-Janda 2-B, c ne se 32-21s-36e	*	3880
Humble, State-Aggie 1, c se sw 31-20s-37e	1500	3850
The Texas Co., State-Aggies 2, c sw se 31-20s-37e	1500	3846
LEA COUNTY—(Monument Field)—		
Amerada Pet. Corp., State 3-D, c se nw 1-20s-36e	6000	3910
Oil Well Drl. Co., State 2-A, c nw ne 29-19s-37e	800	3960
LEA COUNTY—North Eunice Field)—		
Gulf Oil Corp., E. A. King 1, c sw nw 28-21s-27e	150	3804
LEA COUNTY—(Hobbs Field)—		
Shell, State 1-E, sw se se 14-18s-37e	*	4374
LEA COUNTY—(East Jal Field)—		
Humble, J. T. Lanehart 1, c ne sw 21-25s-37e	72	3565
LEA COUNTY—(Wildcats)—		
The Texas Co., E. L. Alexander 1, c nw sw 7-21s-37e	24	3835

*Failure; ¶Million cu. ft. of gas.

percent bs&w, via tubing. The gas/oil ratio was estimated at 10,000 feet per barrel.

The discovery lease of Monument field furnished the largest completion recorded in Lea County the past week, and involved Amerada Petroleum Corporation's State 3-D, C SE NW 1-20s-36e. This well gauged 137 barrels hourly through open 2½-inch tubing with packer set at 3859 feet, and the gas volume was rated at 1,500,000 feet daily. The hole is bottomed at 3910 feet, with an elevation of 3582 feet. Locations have been made by the company to drill State 2-T, C NE SW 25-19s-36e, and State 1-V, NE NE NE 36-19s-36e. The Texas Company also staked two locations, consisting of Willing Weir 1, C SW NW 25-19s-36e, and J. W. Cooper 1, C NW NE 5-20s-37e. The latter is the first test for the section and will require three offsets.

Continental Oil Company and The California Company's J. L. Reed 2-A-3, C SE NE 3-20s-36e, situated on the southwest edge of the Monument field, responded to treatment with 3000 gallons of acid in lime at 3930 feet, or 311 feet sub-sea, with a flow of 55 barrels oil per hour. The gas volume was rated at 9,000,000 feet daily, but will be curtailed by the installation of a packer on tubing above the oil saturated lime. Location has been made for Reed 3-A-3, C NE SE 30-20s-36e. Oil Well Drilling Company et al's State 2-A, C NW NE 29-19s-37e, gauged 18 barrels per hour natural from lime at 3875-3960 feet, and responded to treatment with 2000 gallons of acid with a flow of 85 barrels in six hours. The formation was re-acidized with 3000 gallons and the well flowed 36 barrels per hour.

Magnolia Petroleum Company's Will Cary 1, C NE SE 21-22s-37e, offsetting production in the South Eunice sandy-lime area, swabbed and flowed 30 barrels of oil in eight hours after a 180-quart nitro shot at 3490-3550 feet. The same company's E. A. Carson 1, C NW SW 28-21s-37e, was straight reaming hole late last week with a total depth of 3582 feet after passing up 5,780,000 feet of gas at 3495 feet.

Big Gas Well

CUT BANK TEST IS MAKING 19,000,000 CUBIC FEET

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

Casper.—Flowing 19,000,000 cubic feet of gas daily, Montana Power Gas Company finished the best gasser of the year in the Cut Bank field, Glacier County, northern Montana, this week. It is also the largest gas well to complete for the field since 1931. Three other wells made oil producers, and three new wells were spotted.

Montana Power Gas Company's Langabeer Unit 1, SE NW 17-35n-5w, made 19,000,000 cubic feet gas daily at 2900 feet.

Kately-Drumheller's Ward 4, Lot 3, 10-34n-6w, swabbed 120 barrels in 24 hours. The well made 95 barrels in 24 hours after shot with 80 quarts of nitro glycerin. The hole bottoms at 2912 feet.

Hannah Porter will have a good producer in 1 Alloted 130, Lot 3, 6-32n-5w, as it had 1200 feet of oil in hole at 2850 feet. Depth is 2900 feet.

Manning & Marshall's Tribal 2, 120, Lot 8, 7-34n-8w, flowed 35 barrels oil daily at 2971 feet. Operators may shoot.

Montana Power Gas Company staked a new location in the gas area of the field, State 1, in the center of 16-35n-6w.

Annin-Hutchins' Federal Land Bank 2, SE SW 11-34n-6w, is a new well spudding at 320 feet.

R. C. Tarrant's Haglund Jr. 8, C NE NW 13-34n-6w, is a location.

Seven wells completed and three new locations were staked in the Kevin-Sunburst field, Toole County, northern Montana, this week, where the use of acid has brought this field back into its own. Five out of the seven producers were treated with acid. McKnight's No. 2 Seabrook, NE NW SW 19-35n-2w, flowed 125 barrels initial. Well was acidized with 1000 gallons and 72 hours later it flowed 100 barrels per day. The hole bottoms at 1588 feet.

Big West Oil Company's Dahlquist 2, NW NE NW 21-35n-3w, was treated with acid and after 72 hours opened up when it began flowing. The oil was accompanied by gas which seems to hold the oil back so well will be treated a second time. The hole bottoms at 1804 feet.

Watson Leach 1, SE SE NE 31-35n-3w, is making 10 barrels oil and 20 barrels water after acid treatment at 1765 feet.

Crumley's Fryberger 5, CSL NE SE 24-35n-2w, is rated to make 70 barrels oil daily.

St. Jude-Kesun's Stewart 6, CEL NE NE 25-35n-2w, is being treated with acid. Well had showing of oil at 1507 feet.

Crumley's Shaw 9, SE SE NE 35-36n-2w, is making 75 barrels oil daily.

Nepstad & Vanderpas' Solberg 1, NE NW SE 20-35n-3w, after treatment with acid made 45 barrels oil daily with a heavy volume of gas. The well will be retreated.

Cook & Eddy spotted Larum 1, NE SE NW 25-36n-2w, a northeast extension to the field. Well is spudding at 50 feet.

Coolidge & Coolidge's Maley 1, SWc 30-36-1w, is spudding.

Cassidy-Carlson's 2, CWL SE NE 22-35n-3w, a new location, is drilling at 700 feet.

Considerable interest centers in the Lance Creek field, near Lusk, Niobrara County, eastern Wyoming, this week, as two wells nearing completion are expected to make good producers.

Ohio Oil Company's Lamb 8 Account 2, C SW NE 5-35n-65w, will make a big producer, from all indications. The well had 98 feet of highly saturated basal Sundance entering the top of the red beds at 4045 feet and stopping at 4047 feet. Operators at present are waiting on cement to set around the 7-inch casing at 3947 feet in the top of the fourth Sundance sand.

Continental Oil Company has tested the basal Sundance and is waiting on cement to set around the 8¼-inch casing at an unreported depth (below 3900 feet) in its Apex 3, Account 2, C SE NW 34-36n-65w. The well is a mile east of the nearest Sundance producer in the Lance Creek field.

Continental Oil Company's Schuricht 1-A-3, C SW NW 5-35n-65w, in Lance Creek, is drilling at 1505 feet while Schuricht 1-B, C NW SE 6-35n-65w, is drilling at 3715 feet.

Important south extension test to the Lance Creek field, MacKennie Oil & Drilling Company's Mary Thompson 1, NE SW NE 7-35n-65w, is drilling at 2317 feet.

Argo Oil Company is cleaning out Elliott 7, C NE SW 5-36n-65w, Lance Creek, after a light shot of nitroglycerin placed in the basal Sundance at 3941-97 feet.

Northern Wyoming

Ohio Oil Company's Mill Iron Cattle Company 73, NE SW 19-65n-97w, in the Grass Creek field, Hot Springs County, northern Wyoming, nears critical depth. Other wells in the northern Wyoming fields are at routine stages.

No. 73 Mill Iron Cattle Company is cementing the 7-inch casing at 3840 feet in the top of the Embar lime. Saturation was encountered in the Embar at 3854 feet, while hole bottoms at 3857 feet. Operators will drill deeper into the formation.

Stock Oil Company is still cementing to plug off old abandoned holes around Allen 1, SE NW SE 35-56n-97w, on Garland anticline, Big Horn County, northern Wyoming. Hole bottoms at 3838 feet, with 1000 feet of drill stem frozen to bottom. This well was the wild burning gasser 2 weeks ago.

Stock Oil Company's Allen 1-X in the same field is drilling at 2199 feet and will be carried to 2600 feet where it will stop and be used for pumping water through the Dakota series, and the company's Yates 1, CSL SW NE 33-56n-97w, Garland, is drilling at 3188 feet.

On the south fault block of the Garland anticline, Peay Oil Company (Crosby & Huntington's) Denio Mining & Milling Company Lease 1, C NE NE 15-55n-97w, is still fishing at 3900 feet.

Peter Evanoff's McAllister 1, Lot 40,

NW NE SE 3-55n-97w, in the Byron field, Big Horn County, is lowering casing to below 2355 feet to shut off caving formations. Depth is at 2467 feet.

In the Byron field, Big Horn County, Ohio Oil Company's Robert Till 1, C SE SW 24-56n-97w, is drilling at 5097 feet, while Orson Vail 1, C NW NE 23-56n-97w, is drilling at 2936 feet.

In the Big Medicine Bow field, Carbon County, Wyoming, Ohio Oil Company's Union Pacific 2, C NE NE 35-21n-79w, is drilling in the Morrison formation at 5409 feet. The well had the top to the Morrison at 5279 feet. Union Pacific 3, C NE SE 23-21n-79w, in the same field, is drilling at 4993 feet.

Tri-State Gas Area

Drilling operations in the tri-state gas area embracing northeastern Utah, southwestern Wyoming and northwestern Colorado, where Mountain Fuel Supply Company has three tests, report routine.

Mountain Fuel Supply Company's State 1, NW SE SW 16-3n-24e, Daggett County, northeastern Utah, is spudding at 99 feet.

The company's Georgia Kuykendall 1, NEc SE NE 22-12n-100w, in the Hiawatha field, Moffat County, northwestern Colorado, is drilling at 2434 feet.

W. T. Nightengale 1, SW NE 32-16n-104w, an extension test a quarter mile southwest of the nearest producer in the South Baxter Bain field, Sweetwater County, southwestern Wyoming, is drilling at 1325 feet.

Test Blows Out

TEXACO DISCOVERY MAY BE IMPORTANT COMMERCIALLY

CALIFORNIA

WEEKLY STAFF REPORT

Los Angeles.—The Texas Company's Eureka 2, the State's most northerly drilling well, blew out June 21 while being drilled at 4428 feet, and circulation has not been re-established. The well is located about 220 miles north of San Francisco, 12 miles south of Eureka, Humbolt County, and about seven miles inland from the coast in Section 22-3n-1w. The well was quickly brought under control following the blow-out.

The discovery, in this region, of a commercial supply of either gas or oil would be of major importance due to its isolation. The nearest present gas production is a totally inadequate amount from wells at Marysville Buttes, about 160 miles to the southeast and across the rugged Coast ranges. This is the seventh well to be drilled in the narrow wedge of Pliocene and Quaternary sediments which overlie the Cretaceous sediments and Jurassic metamorphics along the Humboldt County coast. None of these wells has developed commercial production, although each has encountered encouraging showings of both gas and oil. Each was drilled to the Chico (Cretaceous) formation, and The Texas Company's Eureka 1 was drilled to 6133 feet, although the top of the Franciscan schist (Jurassic) was encountered at about 5800 feet.

R. R. Bush Oil Company's Hancock-Bush-Enos 1, wildcat about 60 miles northwest from Santa Barbara in Section 13-10n-34w, is standing suspended at 1901 feet after penetrating the top of the schist at 1895 feet. This well is about three-quarter miles northwest from Union Oil Company's Adam 1, the discovery well of this new area, which was completed April 1, 1936, flowing 2376 barrels a day of 16.4 gravity oil from fractures in the Monterey shale at and near its contact with the Franciscan schist. In the Bush well the Monterey (Middle Miocene) formation was absent and the sands and

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CALIFORNIA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
DOMINGUEZ—		
Shell, Reyes 85	665	4565
INGLEWOOD—		
Shell, Rindge 17	650	3291
RICHFIELD—		
Union, Chapman 22	75	3403
SANTA FE SPRINGS—		
Union, Howard 17	85	4387
SEAL BEACH—		
Standard, San Gabriel 27	355	6550
PLAYA DEL REY—		
Union, Vidor 16	85	6049
EDISON—		
A. T. Jergins Trust, Fee 23-1	250	1690
Wood-Callahan, Needham 1	150	3186
KERN FRONT—		
Texas Co., Lehman 5	250	2090
McKITTRICK—		
Puente Oil Co., Home 21	75	1263
MIDWAY-SUNSET—		
C. C. M. Oil Co., No. 17	425	2105
Chief Oil Co., Francis 3	55	2690
Standard, No. 203-5K	105	2435
ROUND MOUNTAIN—		
Barnsdall, Caldwell 5	190	1815
BUTTONWILLOW—		
Seaboard Oil Corp., Kern 8	¶22	3817
RIO VISTA GAS FIELD—		
Amerada, Emigh 1	¶8.7	4485
SHIELLS CANYON—		
Bankline Oil Co., Calumet 1	65	4617
SOUTH MOUNTAIN—		
Calco Pet. Corp., Calco 3	220	3465

*Failures; †Junked; ¶Million cu. ft. gas.

shales of Sisquoc (lower Pliocene) were found resting directly upon the schist.

Important Gas Test

Amerada Petroleum Corporation's Emigh 1 was completed June 19 flowing 8,750,000 cubic feet of gas, with tubing and casing pressures of 1375 pounds and 1700 pounds, respectively. Depth is 4485 feet, with 11¾-inch water string cemented at 4278 feet and 215 feet of 6⅝-inch perforated liner landed on bottom. The completion of this wildcat project, located in Section 26-4n-2e, is of major importance due to its proximity to the San Francisco Bay region where large markets are available and the nearest adequate supply is Kettleman Hills, more than 200 miles to the southeast. The Amerada well is situated on the north side of Suisun bay, the northeast arm of San Francisco bay into which the Sacramento and San Joaquin rivers empty, and is about 10 miles north and 5 miles east from Antioch. Since the oil and gas lines to the bay region from the San Joaquin valley pass through Antioch, the marketing problem will not be difficult except that the gathering lines must cross the tide-swept mouths of both the Sacramento and San Joaquin rivers.

West American Oil Company's West American 1, Section 24-3s-10w, cored 250 feet of saturated oil sand with streaks of shale between 3571 feet and 3821 feet. According to existing maps, this well is situated on the south flank of a saddle between the central and western structural "highs" of the East Coyote field. While grading for this well, northward dipping strata were exposed, which fact, together with the quantity of saturated oil sand cored, may tend to change the existing beliefs relative to that part of the East Coyote structure.

Eastern Oil Company's Eastern 1, semi-wildcat well in Section 22-2s-15w, has been cleaned out to bottom and is being washed with solvent to remove the heavy mud and mud weight material used to kill the high pressures and bring the well under control. Depth is 7432 feet, with 7-inch casing cemented under pressure at 7295 feet and 157 feet of 4¾-inch liner, including 62 feet perforated, landed on bottom. Continuous swabbing early in the week brought up large quantities of heavy mud and tar but failed to induce continuous flow. However, the well at that time had been cleaned out only to 7355 feet, or 43 feet above the top of the oil sand, and it is probable that the hole was effectively plugged with mud and weight material. The tar, as well as large volumes of gas, is believed to have come from fractures in the nodular shale which is open to the well between 7295 and 7398 feet, although only the bottom 28 feet of the shale is opposite perforations. The nodular shale will not be blanked off by cementing through perforations, for the present, in the hope that the tar supply will soon be exhausted and the accompanying gas flow will continue.

West American Oil Company's Del Amo 1, Section 3-4s-13w, is being cleaned out to bottom in preparation for a production test. Depth is 9000 feet, with a 5¾-inch full combination string landed on bottom and cemented through perforations at 8495 feet. It is understood that very encouraging oil showings were cored between the c.p. point and bottom, which is somewhat substantiated by the fact that two gas traps and large storage accommodations are being constructed at the well. This well is near a southeasterly projection of the structural axis of Dminguez structure, and was drilled with the expectation of finding an oil accumulation trapped between two possible cross faults.

Shell Oil Company has staked 2 new locations in the vicinity of its K. C. L.

SHIPMENTS DOWN

Los Angeles.—Tanker shipments of crude oil and all other petroleum products from California during May totaled 4,761,720 barrels, of which 3,378,668 barrels went to Pacific foreign ports, which includes Canada. The total May tanker movement compares to 5,554,374 barrels in April and 4,518,079 barrels in March.

Atlantic domestic points drew only 659,038 barrels of all products, of which 498,094 barrels was gasoline and 154,331 barrels of kerosene. Atlantic foreign ports were shipped 178,387 barrels of gas and Diesel engine oil and 254,465 barrels of gasoline. Only 40,897 barrels of natural gasoline moved in May, going to Pacific foreign.

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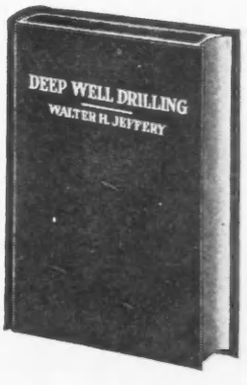

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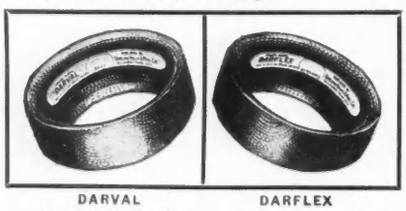

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1, which recently created a sensation when completed flowing 744 barrels a day of 61.4 gravity oil and 12,500,000 cubic feet of gas. The second well will be designated K. C. L. Stevens A 6-29 and will be located 991.30 feet south and 325.05 feet east from the W¼ corner of Section 29-30s-26e, and the third will be designated K. C. L. Stevens A 56-29 and located 991.30 feet south and 2967.05 feet east from the same point. K. C. L. 1 was bottomed at 7888 feet in what is reported to be Brown Shale (Santa Margarita-upper Miocene), the 6⅝-inch water string was cemented at 7300 feet, and 110 feet of 4¾-inch liner, including 92 feet perforated, was landed on bottom. Undoubtedly this recent development will lead to active exploration for oil in areas heretofore generally considered unfavorable.

SEEK MORE GAS

Grand Rapids objects to 50-50 ruling

MICHIGAN — WEEKLY STAFF REPORT

Mt. Pleasant, Mich.—The City of Grand Rapids has threatened to go to court in an attempt to balk the Public Utilities Commission from limiting the city to 50 percent natural gas. The commission in a new ruling refused to modify its original order of a permit for 50 percent natural gas for Grand Rapids requirements.

Ganson Taggart, Grand Rapids city attorney, said that he would seek immediate authority to institute injunction proceedings to restrain the commission from restricting the city to 50 percent natural gas.

The commission in refusing to modify the 50-50 order said that the United States Bureau of Mines survey did not indicate reserves adequate to warrant further extension of markets from the Tri-township gas field.

APPEAL TAX CASE

Mt. Pleasant, Mich.—An appeal in brief form was before the Michigan supreme court this week in the state tax land case in which the circuit court held the state does not have constitutional authority to reserve oil and minerals on lands reverting to the state for tax delinquency.

An appeal to dismiss the case was denied in the trial court. The action in the supreme court is an appeal to dismiss the trial court decision.

The case developed from a suit brought by Nick Krench of Detroit, against Fortney Oil Company and the State of Michigan, et al, last September, and in particular involves a lease in Horton township, Ogemaw County.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GLADWIN COUNTY—		
M. F. Whitehill, King 1, 17n-2w, sw sw nw-2	110	3907
MECOSTA COUNTY—		
Bundy Hill Oil Co., Schuberg 2, 13n-7w, c nw nw-32	¶12	1337
MIDLAND COUNTY—		
Pure Oil Co., Tritschler 1, 13n-2w, nw nw-11	20	3454
Sinif 3, 13n-2w, nw ne-2	200	3427
Reed B-2, 13n-2w, nw sw-1	95	3437
MONTCALM COUNTY—		
R. M. Burch, Morse B-2, 12n-7w, c ne sw-2	¶11	1261
Kinwell Oil Co., Flenk 1, 12n-7w, c ne ne-15	¶22	1260
Morris Oil & Gas Co., Young 1, 10n-6w, se se sw-36	*	2200
Jetter & Oil Finder's DeHart 1, 9n-6w, ne sw ne-1	*	3191
SAGINAW COUNTY—		
B. J. Skinner, Sheldon 1, 10n-3e, se se sw-11	*	2919

*Failures; †Junked; ¶Million cu. ft. gas.

EASTERN FIELDS

EASTERN FIELDS — WEEKLY STAFF REPORT

Completions

OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
PERRY COUNTY—		
Ohio F. G. Co., King 1	*	2863
Rhoades 1	¶	3203
Hopewell Gas & Fuel, From 1	¶	2876
Perry Sturm, Vabsickle 3	¶	....
VINTON COUNTY—		
Kelch Bros., Gaiger 3	2	1068
Dove O. & G. Co., McGuire 1	*	....
ATHENS COUNTY—		
Ohio F. G. Co., Eastman 2	¶	1590
Carpenter & Co., Dean 15	*	346
Paramount Gas Co., Carbondale 3	2	1145
A. D. Townsend, Shelton 2	¶	450
WASHINGTON COUNTY—		
Metcalf & Co., Greenless 50	*	679
Williams Bros., Board 6	¶	1152
MEIGS COUNTY—		
Clyde Cody, Nesselrode 1	¶	933
Rutland Gas Co., Mutchler 8	¶	....
NOBLE COUNTY—		
Larrick, Rich & Co., Murphy 1	5	....
COSHOCTON COUNTY—		
Upham Gas Co., Spurgeon 1	¶	....
MONROE COUNTY—		
Pearl V. Parks, Parks 1	25	....
MEDINA COUNTY—		
Curtis & Eaken, Brown 14	1	....
LICKING COUNTY—		
Ruthledge & Mossholder, Tegarden 1	15	....
C. R. Settles, Vans 4	3	....
KNOX COUNTY—		
Upham Gas Co., Swingle 1	*	....
Knox Expirin, Cline 1	30	....
HOLMES COUNTY—		
S. J. Bell & Co., Finley 2	¶	....

WEST VIRGINIA

CALHOUN COUNTY—		
Ohio Valley Gas Co., Starcher 1	*	....
Southeastern Gas Co., Roberts 1	¶	....
Guy Boggess & Co., Altizer 1	*	....
BOONE COUNTY—		
O. B. Cunningham & Co., Perdew 1	¶	....
Owens Illinois Glass Co., Price 1	¶	....
Ballard 2	¶	....
GILMER COUNTY—		
Leonard Cain & Co., Boggs 1	¶	....
H. Scott & Co., McClain 1	¶	....
McCall Drilling Co., Hardman 1	*	....
KANAWHA COUNTY—		
Columbian Carbon Co., Burdette 1	¶	....
RITCHIE COUNTY—		
McDougal O. & G. Co., McDougle 3	*	....
Bash Bros., Tingler 1	*	....

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT

Wildcat Tests

ALABAMA

HOUSTON COUNTY—Rice O. & G. Co.'s Oakley Est. 2, 9-3n-29e, sd 3580 ft.

MOBILE COUNTY—J. C. Prine's King 1, 4-1n-4w, ow pb to 2600 ft. old td 3186 ft. Grand Bayou O. & G. Co., Fee not given, 24-7s-3w, lcn.

ARKANSAS

BRADLEY COUNTY—Phillips Pet. Co.'s Murphy Land Co. 1, nw nw 12-17-11, elev 91 ft, top red beds 2921 ft, dr 3000 ft.

CALHOUN COUNTY—Ben Barnett, Tr's Freeman Smith 1, se nw sw 36-15-14, dr 5335 ft. Proetz & Brown's Calion Lbr. Co. 1, se sw 22-15-15, dr 4510 ft.

COLUMBIA COUNTY—J. C. Buckbee, Tr's J. B. Wilson 1, sw ne 17-17-15, elev 319 ft, sd 4510 ft.

CRAWFORD COUNTY—Trumbo et al's Craddock 1, c nw ne 3-11-30, top Miss. lime 965 ft, top Wilcox 1327 ft, sd 1600 ft.

DALLAS COUNTY—Kel-Mac Oil & Roy. Co.'s Owens 2, nw sw 26-10-16, sd 1925 ft.

HEMPSTEAD COUNTY—Easten & May's Conway 1, ne sw 20-12s-27w, elev 290 ft, massive anhydrite 1913-69 ft, coring 2850 ft.

LA FAYETTE COUNTY—A. M. Neely's Meek 1, ne nw 35-19-25, rur. Ohio Oil Co.'s Bodcaw Lbr. Co. 3, nw nw 20-16-23, elev 250 ft, tested sw after pb to 3525 ft, sw abn td 7707 ft top Permian.

LITTLE RIVER COUNTY—Roberts et al's Hall 1, se se 22-13-29, owdd, td 1950 ft.

LONOKE COUNTY—Frank F. Silver's Jos. Chambers 1, sw ne nw 17-2-27, elev 229.2 ft, sd 1610 ft, hd shale.

MILLER COUNTY—King Oil Corp.'s Mann 1, 2-16-26, top Nacatosh 1605 ft, dr 2330 ft. Deep Rock Oil Co.'s Williams 1, nw sw nw 6-16-25, top Nacatosh 1270 ft, fsh 4156 ft (corrected depth). Joiner et al's Montana Realty Co. 1, 3-17-28, top Arkadelphia 1060 ft, dr 1882 ft shale.

OUACHITA COUNTY—Rhoda Armstrong's Bragg 1, se nw 25-13-18, dr abn td 1403 ft. Carnes & Harrell's Roberston 1, nw se 7-12-19, elev 176 ft, sd 2487 ft. O. F. Whittaker's Howard 1, nw ne 20-12-16, dr 2400 ft. Lion O. R. Co.'s Reynolds-Berg 1, se ne 28-15-15, sd 4871 ft. Phillips Pet. Co.'s Arnold 1, ne sw 27-15-15, coring 4921 ft; Cheatham 1, sw ne 27-15-15, mixing mud 4910 ft; J. M. Farris 1, sw ne 27-15-15, rur; Rose 1, ne sw 28-15-15, dr 4513 ft, sandy shale; Harris 1, sw ne 28-15-15, arr drill stem test 4797-4807 ft; Mary Murphy 1, ne ne 28-15-15, dk; Mary Murphy 2, ne ne 28-15-15, lcn. Standard Oil Co. of La.'s Reynolds B-3, se ne 27-15-15, 8⅝-in csg 4892 ft, flowed 85 bbls fluid 6% sw in 22 hours, td 4912 ft.; Reynolds B-4, nw sw 27-15-15, rur. American Liberty Oil Co.'s (Jno. Pugh) Hildebrandt 1, se se 28-15-15, elev 162 ft, 7-in csg 4904 ft, swabbing td 4914 ft. J. E. Crosbie, Inc.'s Sewell 1, sw ne 33-15-15, rur. Edwin M. Jones' J. D. Reynolds A-1, sw sw 27-15-15, lcn; J. D. Reynolds A-2, sw sw 27-15-15, lcn; E. Murphy 1, ne ne 28-15-15, lcn; E. Murphy 2, nw ne 28-15-15.

UNION COUNTY—J. C. Buckbee, Tr's Ezzell 2, ne nw 13-17-15, coring 5000 ft.

CALIFORNIA

FRESNO COUNTY

CURRY MOUNTAIN—Standard's Camino 1, 1-21-15, td 515 ft, wocs 16-in at 515 ft.

CANTUA CREEK—Western Gulf's S. P. L. Co.'s 3, 3-17-15, dr shale and sand 7075 ft.

KERN COUNTY

KERN FRONT—American Explor. Co.'s Exploration 1, 16-28-27, td 2862 ft, wocs 8⅝-in at 2813 ft.

POSO CREEK—Bargol Oil Co.'s Bargol 1, 11-27-27, dr brown shale 3300 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper.*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million feet of gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so & g—*show oil and gas.*
fsg.—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole full of water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wosr—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

SOUTH MARICOPA—E. A. Bender's Robinson 1, 14-10-23, dr shale 697 ft.

POSO CREEK—Bourke & Dyer's Stockton 1, 28-26-28, dr gray sand 1900 ft.

JASMINE—Cochran Oil Co.'s Bishop 1, 31-25-27, rig.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, spud 6/23.

ELK HILLS—Elk Hills Pet. Corp.'s No. 1, 14-31-24, dr 1900 ft.

GRAPEVINE—Hall-Baker Co.'s No. 1, 12-10-19, dr shale 1326 ft. Ohio Oil Co.'s T. I. T. 1, 36-11-19, dr sand and shale 3947 ft. Reserve Oil & Gas Co.'s Ritchie 33-2, 33-11-19, dr shale 832 ft; Tejon 2-6, 2-10-19, rur.

MOUNT POSO—R. S. Litle's Dorsey 3, 26-27-28, td 1461 ft, pumping 60 bbls, cut 40 percent. Poso Pet. Co.'s No. 1, 2-27-27, sd 2004 ft.

POSO CREEK—McAdams Oil Co.'s No. 1, 32-27-28, rig.

DOMINION—Modoc Pet. Co.'s Vedder-Bowles 2, 21-26-28, dr oil sand 1521 ft, top of Vedder at 1520 ft.

MOUNTAIN VIEW—Mohawk Oil Co.'s Earl Fruit 1, 10-31-29, dr sand and shale 5224 ft.

STRAND—Ohio Oil Co.'s K. C. L. 1, 1-30-25, td 8544 ft, repairing equip.

NORTH BELRIDGE—Rio Grande Oil Co.'s Layman 1, 18-28-20, spud 6/23.

EDISON—R & R Dev. Co.'s R & R 3, 32-30-30, td 872 ft, bailed wet, co.

DOMINION—Santa Clara Oil Co.'s Bass-Goodknight 1, 19-26-28, dr brown shale 1650 ft.

KERN RIVER—Seven Spot Oil Co.'s No. 1, 13-26-27, td 1228 ft, running liner.

STEVENS AREA—Shell's K. C. L. A6-29, lcn; K. C. L. Stevens A56-29, lcn.

LOST HILLS—Standard's United 1, 2-26-20, dr hard gray sand 6836 ft.

COMANCHE POINT—Tejon Ridge Oil Co.'s Tejon 1, 23-32-29, dr hard sand 2402 ft.

SAN EDIDIO—Texas Co.'s K. C. L. C-11-49, 11-11-22, td 7622 ft, co at 7373 ft.

MOUNTAIN VIEW—Treasure Dr. Co.'s Treasure 1, 12-30-28, sd 5390 ft.

McFARLAND—Woods & Bailey's No. 1, 16-26-26, sd 4488 ft, to drop from report.

MISCELLANEOUS

ALAMEDA COUNTY—Seaboard Oil Corp.'s No. 1, 13-3-3, bldg rig.

HUMBOLDT COUNTY—Texas Co.'s No. 2, 22-3-1, td 4365 ft, dr pipe stuck.

KINGS COUNTY—Associated's Avenal 1, 35-23-17, dr hard shale 918 ft.

PYRAMID HILLS—Herndall & Associates' Spreckles 1, 16-24-18, td 4201 ft, plug 1985 ft, pumping chemical, mud and oil.

MADERO COUNTY—Pure Oil Co.'s Chowchilla 4, 20-10-14, dr shale 2720 ft.

MERCED COUNTY—E. R. Fantz's Cunningham 1, 22-7-16, lcn.

SAN BENITO COUNTY—Associates' Murphy Ranch 1, 5-12-4, bldg dk.

SAN JOAQUIN COUNTY—Standard's McDonald Island 1, 25-2-4, lcn.

SAN LUIS OBISPO COUNTY—Avila Oil Co.'s Gibson 1, 10-31-13, rig. Barnsdall's Wreden 1, 24-28-17, td 3473 ft, fsh. Birch-Royer Oil Co.'s Patchell 1, 33-31-13, td 1840 ft, redr at 1540 ft.

ARROYO GRANDE—A. T. Jergins Trust's Rodriquez 1, 5-32-13, rur.

CARRIZO PLAINS—J. C. Theriot's Holland 1, 22-32-23, sd 2135 ft.

CHOLAME—Willett Oil Assn.'s Jack 2, 10-25-15, sd 3648 ft.

TEHAMA COUNTY—Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, dr hard sand 8002 ft.

TULARE COUNTY—W. H. Fortines Mosisian 1, 22-27-26, dr sandy shale 2720 ft.

MONTERREY COUNTY—North Dome-Cholame Hills Oil Co.'s Hillman 1, 15-24-14, rig. Shell's Branch 1, 34-24-10, td 8994 ft, plugging back and testing.

SANTA BARBARA COUNTY—Bankline Oil Co.'s No. 2, permit 191, td 5510 ft, redr at 2412 ft. La Canada Oil Corp.'s No. 2, 3-4-30, rig. Lompoc Pet. Co.'s Beauterbough 2, 18-7-34, sd 3940 ft. E. H. Moore's Union Sugar 1, 25-10-35, dr shale 4424 ft. York Oil Co.'s York 2-A, 33-8-34, rig.

VENTURA COUNTY

BARDSDALE—Besteo Pet. Co.'s Frey 1, 2-3-19, dr red shale and gray sand 4512 ft.

OXNARD—General Pet. Corp.'s McGrath 2, 26-2-35, dr hard shale 7968 ft; (Javon) Padre 1, 15-3-24, grade.

SOUTH MOUNTAIN—Honolulu Oil Corp.'s Hobson 1, 23-2-21, rur.

SIMI—Jas. S. Hull's No. 1, 2-2-18, sd 1715 ft.

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SESPE CANYON—Merchants Pet. Co.'s No. 1, 1-4-20, bldg tramway.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, dr sand streaks shale 7984 ft.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall's Rancho S. F. 1, 26-4-17, foundations. Holbrook Pet. Corp.'s No. 1, 26-4-16, dr shale 350 ft. Yant Pet. Corp.'s Yant 5, 1-3-16, dr 2052 ft.

ARTESIA—M. T. Bernstein's Millard 1, 25-3-12, dr hard coarse sand 4377 ft.

NORTH LONG BEACH—Geo. L. Clayton's No. 1, 31-3-12, sd 6765 ft.

TORRANCE—Codri Oil Co.'s No. 1, 28-4-13, td 3902 ft, plug 3540 ft, reperforated 3442-3540 ft. Eyer Pet. Corp.'s No. 1, 20-4-13, sd 3794 ft. Jas. S. Hull's No. 1, 20-4-13, dr shale 3834 ft.

GARDENA—Crude Oil Dr. Co.'s No. 1 (was A. C. Edington) 31-3-13, rur.

WILMINGTON—General Pet. Corp.'s Terminal 1, td 3019 ft, flowed 200 bbls 18.2 gravity oil at 3015 ft, pulled tubing, deepening. Harbor Dr. Co.'s No. 1, 33-4-13, td 3566 ft, pumping 15 bbls 17.6 gravity oil. Royalty Service Corp.'s Banning 11-1, 28-4-13, lcn.

PUENTE—Numac Oil Co.'s Rowland 2 (was Vega Pet. Corp.), 14-2-10, td 2545 ft, plug 2500 ft, pumping 40 bbls, cutting 50 percent. McVicar-Rood's Sentous 1, 6-2-9, dr shale thin streaks oil sand 2770 ft.

PALOS VERDES—Pomaco Royalty Co.'s Burkhard 1, 2-5-14, rig.

ROSECRANS—Republic Pet. Co.'s Republic Trust 1, 18-3-13, dr lower Maxwell zone 4844 ft.

EL NIDO—Shell's Lloyd-Dabney 1, 33-3-14, rig.

DOMINGUEZ—West American Oil Co.'s Del Amo 1, 3-4-13, td 9000 ft, dr out cement.

PLACENTIA—Calif. Eastern Oil Co.'s Verde 1, 35-3-9, dr hard sand and conglomerate 3360 ft.

NEWPORT—Commander Oil Co.'s Mesa 1, 29-6-10, td 2121 ft, pumping a little heavy oil and water, co.

WESTMINSTER—Hillman & Long's No. 1, 14-5-11, td 7701 ft, wocs 8⅝-in at 5585 ft.

HUNTINGTON BEACH—Shell's Anaheim Sugar 3-1, 7-6-10, rig.

SUNSET BEACH—Geo. Terry's Gun Club 1, 17-5-11, sd 5200 ft.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, 11-10-5, dr brown shale, streaks hard sand 2416 ft.

PUENTE HILLS—Melbourne Pet. Co.'s Abacherle 2, 12-3-8, lcn. Tehama Pet. Co.'s Kraemer-Backs 2, 33-2-9, td 560 ft, running 12½-in casing; Pellisier 1, 4-3-8, dr shale 464 ft.

COLORADO

ADAMS COUNTY—Glenridge Oil Co. Hills 1, csl se se 27-3s-64w, dr 4267 ft. Riddle Petroleum Co. Baxter 1-C, sw 2-3s-6e, co 700 ft.

ARCHULETA COUNTY—Oil City Petroleum Co. & Archuleta Oil & Gas Co. Reeder 1, swc Lot 5, 24-33n-2e, dr 630 ft. Small so in sandy shale at 612 ft.

BACA COUNTY—Paul R. Robb Petroleum Corporation Lovettee 1, nw nw nw 24-32s-48w, dr 1729 ft.

BOULDER COUNTY—Boulder Production & Drilling Co. Maxwell 2, sw sw ne 24-1n-71w, ru.

LARIMER COUNTY—Continental Oil Co. Buckeye 8 U. P. cne sw 31-10n-68w, dr 1480 ft.

LAPLATA COUNTY—McGarr Petroleum Co. 1, csl ne ne 27-33n-12w, sd 3500 ft. for 6¼-in. csg.

PARK COUNTY—South Park Oil Co. State 1, se se sw 16-11s-75w, dr 4586 ft, and carrying 6¼-in. csg at 4531 ft. 2,880,000 cu. ft. gas at 4565 ft.; LeBert 1, ne ne nw 21-11s-75w, completed water well at 120 ft. Spd in 15½-in. hole at 130 ft.; Lemarr 1, ne ne se 34-11s-75w, lcn.

WELD COUNTY—Continental Oil Co. State Bank of Trenton 1, csw ne 21-8n-59w, dr 5857 ft. in shale.

KANSAS

BARBER COUNTY—Sinclair Prairie's Gentry 1, ne ne ne 1-33s-15w, rur.

BARTON COUNTY—Davison et al's Birzer 1, sw se sw 22-17s-12w, sd 3250 ft. Schermerhorn Oil Co.'s Hunter 1, ne ne ne 29-18s-15w, pb 3543 ft, gauged 30 mil ft gas. Wakefield & Johnson's Bumm 1, sw ne ne 22-19s-12w, dr 2675 ft. Rosespring Drlg. et al's Rick 1, sw sw sw 1-19s-11w, dr 2740 ft. Brouk et al's Keil 1, se se ne 11-16s-15w, dr 1215 ft. Rose & Lant's Redetzke 1, ne nw nw 10-16s-11w, sd 714 ft. Bailey et al's Hammeke 1, ne ne sw 12-18s-12w, rig.

BUTLER COUNTY—Ellis et al's Pettit 1-A, se se nw 21-28s-6e, sd 3163 ft. Rex & Morris' Olson 1, nw sw se 15-28s-6e, sd 3059 ft. McGinnis et al's Hinnen 1, ne ne sw 18-24s-4e, dr 2355 ft. Solomon's Church 1, sw ne se 8-28s-5e, sd 50 ft. Dalton et al's Miley 1, csw ne 17-27s-5e, dr 350 ft.

CLARK COUNTY—Olson & Watchorn's Morrison 1, cse sw 17-32s-21w, mim.

COWLEY COUNTY—Braden Prod. Co.'s Sparks 1, se se nw 35-33s-4e, dr 3156 ft. McKnabb's Community 1, cne nw 14-34s-3e, sd 2280 ft. Morton et al's Rogers 1, se se ne 1-31s-4e, sd 1230 ft.

EDWARDS COUNTY — Stanolind-Elwell's Donovan 1, cse se 14-25s-18w, dr 4404 ft.

ELLIS COUNTY—Jones Bros. & Carpenter et al's Solomon 1, se se sw 28-11s-19w, td 3629 ft. Bridgeport Mach. & J. J. Hall's Madden Estate 1, ne nw nw 26-15s-18w, td 3331 ft, 50 bbls 16 hrs, comp. Harris & Haun et al's Schmeidler 1, se se sw 3-13s-17w, td 3362 ft, pumped 676 bbls oil. Rosespring et al's Union Pacific 1, ne ne ne 9-13s-20w, dr 3555 ft. Empire's Herl 1, se se se 22-15s-19w, dr 2625 ft. Twin Drlg. Co.'s Copeland 1, ne ne sw 26-14s-19w, td 3710 ft, pumped 410 bbls oil. Parrish & Dennam's Walter 1, se sw se 14-13s-17w, fsg 3295 ft. Jones & Shelbourn's Gunther 1, se se sw 9-11s-19w, dr 1305 ft. Vickers Pet. Co.'s Kraus 1, sw sw nw 22-14s-19w, td 3444 ft, rust. Bradley Oil et al's Penny Wann 1, se se se 13-15s-20w, td 3341 ft, rust. Empire O. & R. Co.'s Samuelson 1, ne ne sw 31-11s-16w, ru. Kansas Development Co.'s Haller 1, se se nw 10-11s-18w, dr 1510 ft. Bridgeport Mach.'s Ubert 1, ne ne nw 12-13s-18w, dr 640 ft. Philham Oil Co.'s Gerstner 1, sw sw se 24-14s-17w, td 460 ft, wocs. Trigg et al's Armbrister 1, se se sw 6-11s-19w, dr 1900 ft. Wolf Creek et al's Polifka 1, sw sw ne 24-13s-18w, ru.

ELLSWORTH COUNTY—York State Oil Co.'s Koestle 1, nw nw se 12-17s-9w, dr 410 ft. Roy Ramsey et al's Gregory 1, sw sw se 25-16s-9w, dr 1005 ft.

GRAHAM COUNTY—Vickers & Phillips' Hutton 1, ne ne se 29-8s-22w, dr 3588 ft.

GREENWOOD COUNTY—McGinnis' Lampe 1, nw ne sw 26-24s-8e, dr 1400 ft. Guy Scott et al's Pedroja 1, se ne se 6-26s-10e, dr 250 ft.

HARPER COUNTY—Marathon Oil Co.'s Zellers 1, csw nw 17-35s-8w, dr 5056 ft.

HARVEY COUNTY—Harburney Oil Co.'s Scrag 1, nw nw se 24-22s-3w, sd 2907 ft. Shawver's Judd 1, sw se ne 3-24s-2e, ur 10-in csg 2215 ft. Phillips Pet. Co.'s Kaufman 1, ne ne nw 2-22s-2w, td 160 ft, woc.

HASKELL COUNTY—Kuhn Bros. et al's Nilson 1, sw sw se 21-28s-32w, td 2409 ft, rust. Helmerich & Payne et al's Jones 1, cse 34-26s-34w, td 645 ft, woc.

KINGMAN COUNTY—Lauck et al's Prather 1, cse 18-27s-8w, coring 4360 ft. Oklahoma Oil Corp. et al's Reeves 1, nw nw nw 29-27s-5w, fsg 4150 ft. McBride's Wooldridge 1-A, sw ne se 16-27s-7w, br.

McPHERSON COUNTY—Empire's Cunningham 1, se se se 26-18s-1w, td 2840 ft, wocs. Johnson et al's Johnson 1, sw sw nw 33-17s-1w, td 2740 ft, testing.

MEADE COUNTY—Pacific Midwest Co.'s Rexford 1, ne se sw 8-30s-29w, mim.

NESS COUNTY—Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, dr 475 ft.

PAWNEE COUNTY—Kessler & Their et al's Gustafson 1, sw sw sw 27-20s-16w, rur.

RENO COUNTY—Rosespring et al's Swanson 1, ne ne nw 1-23s-5w, dr 3057 ft. Kickey Oil Co.'s Sherherd 1-A, ne ne nw 22-26s-9w, dr 4245 ft. Miller et al's Detter 1, ne se nw 28-22s-7w, sd 570 ft. Pryor & Lockhart et al's Kerr 1, cnw 23-23s-8w, ru. Foraker et al's Hiett 1, se sw ne 34-24s-4w, dr 3135 ft.

RICE COUNTY—Gilmax Oil Co.'s Sargent 1, se se se 31-18s-6w, ru 6-in csg 3020 ft. Simpson & Noble et al's Pulliam 1, cs½ n½ ne 35-19s-8w, mir to dd. Skiles et al's Stout 1, se se se 6-21s-9w, td 3374 ft, d & a. Beardmore et al's Fuller 1, sw sw se 23-18s-7w, sd 3340 ft. Simpson-Noble & Stanolind's Bowman 1, sw sw nw 22-19s-10w, rust 3286 ft. Shell's Maughlin 1, ne nw se 11-20s-8w, mir to dd. Shell et al's Hafferman 1, cn½ n½ se 6-19s-9w, td 3207 ft, pot 937 bbls in 17¾ hrs, comp. Shell Pet.'s Gordon 1, cw½ w½ ne 21-21s-10w, lcn.

ROOKS COUNTY—Murfin et al's Westhusin 1, ne ne se 12-6s-18w, co 3335 ft. Skeer Oil Corp. & Reese's Dryden 1, ne ne ne 28-10s-17w, dr 3277 ft. Lester & Dean's Burtt 1, se se ne 29-10s-20w, sd 2714 ft. Shoemake's Stebbins 1, ne ne sw 26-7s-17w, ru 10-in csg 1500 ft. Helmerich & Payne's Bedard 1, cne 29-9s-19w, td 3530 ft, rust. L. C. D. Drlg. Co. et al's Westhusin 1, cne se 11-9n-17w, sd 550 ft. Hartman & Blair et al's Hall 1, nw nw nw 25-10s-17w, dr 960 ft. Buckner & Schaff's McConnett 1, ne ne ne 34-6s-18w, pits.

RUSH COUNTY—Pryor & Lockhart's Stegman 1, sw nw ne 11-16s-17w, dr 3405 ft, pb. Boyle & Grossman's Wilson 1, ne ne ne 33-17s-19w, dr 3510 ft. National Ref. Co.'s Werth 1, nw ne ne 7-16s-18w, td 3624 ft, d & a. Keith et al's Dartmouth Savings Bank 1, sw sw ne 3-17s-18w, td 3665 ft, d & a.

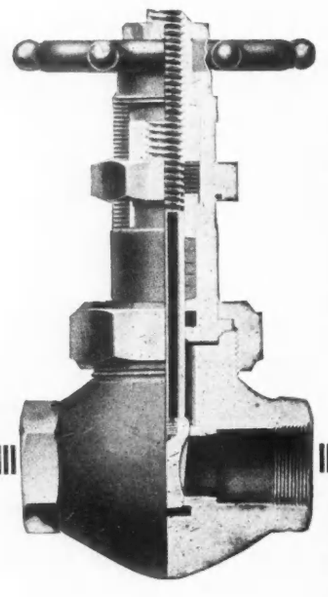
RUSSELL COUNTY—Berry et al's Cook 1, ne ne se 19-11s-13w, td 3675 ft, d & a. Eisenhour & Shaffer's Humes 1, sw sw sw 6-14s-12w, sd 3407 ft. Wakefield et al's Krug 1, ne nw sw 7-15s-14w, ur 6-in csg 3041 ft. Hartman & Blair's Johnston 1, nw nw nw 11-13s-14w, fsg 2023 ft. Lario O. & G. Co. et al's Steinert 1, nw nw sw 21-15s-15w, dr 2250 ft. Hartman & Blair's McAllister 1, sw sw se 24-13s-15w, dr 3130 ft. Armer et al's Maier 1, ne nw ne 20-15s-14w, dr 945 ft. Central Pet. Corp.'s Benso "C" 1, se se sw 9-14s-15w, pb 3120 ft, pulled 5-in csg. Lee & Reser's Penix 1, sw sw se 13-14s-13w, spd.

SABINE COUNTY—Ryan Consolidated & Archer's Norton 1, ne ne ne 30-14s-2w, mim.

SEDGWICK COUNTY—Joe Aylward et al's Harrison 1, se se sw 23-25s-2e, td 3345 ft, d & a. Lauck's Parke 1, se se ne 17-25s-2e, td 3513 ft, d & a. Wakefield et al's Howard 1, se se ne 25-25s-2e, rig.

STAFFORD COUNTY—Lebow et al's Wolk 1, se sw nw 3-21s-12w, rur.

SUMNER COUNTY—Matthews & Derrington's Berry 1, nw nw se 14-25s-1e, dr 3578 ft. Wilson et al's Clark 1, csl nw 15-35s-1w, sd 4430 ft. Craft & Wilson's Nevitt 1, ne nw ne 36-32s-2e, sd 3500 ft. Pryor & Lockhart et al's



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Knowles 1, sw sw sw 30-30s-1e, td 4031 ft, d & a. The Texas Co.'s Reed 1, ne se se 11-31s-1w, td 3051 ft, rust.

TREGO COUNTY — Central Commercial's Wagg 1, nw nw se 17-13s-21w, sd 4387 ft. Hall et al's Deines 1, se se se 12-13s-24w, ur 12-in csg 1970 ft.

WOODSON COUNTY—Foster et al's Timm 1, se nw ne 36-25s-13e, td 1520 ft, d & a. Sheedy et al's Fuhlhage 1, sw se sw 27-25s-14e, td 1650 ft, d & a. Lewis et al's Riggs 1, sw sw sw 10-26s-14e, dr 1115 ft.

NORTH LOUISIANA

BIENVILLE PARISH—J. W. Leonard et al's Courtney Hrs 1, se se 5-17n-7w, rur. Rondeau et al's Locke 1, ne nw ne 9-15n-10w, elev 180 ft, rur. Walters et al's Davis 1, 3-16n-9w, dk.

BOSSIER PARISH—Bowman-Tidwell's Nattin 1, 15-22n-14w, chalk 2010-2101 ft, dr shale and gumbo 2176 ft. Humphreys et al's Bulkley 2, se se 35-21n-13w, rur. Producers O. & G. Co.'s J. A. Skannal Est. 1, sw sw 22-17n-12w, sd repr dk. 3763 ft, lime and shale. Triangle Drlg. Co.'s H. L. Skannal 2, sw se 23-17n-12w, elev 216 ft, dr 3780 ft, shale. United Gas Pub. Serv. Co.'s Skannal D-1, 22-17n-12w, dr 5090 ft.

CATAHOULA PARISH—Ray McDermott's La. Cent. Llbr. Co. 1, nw nw 15-10n-5e, sd 2505 ft.

CADDO PARISH—Pyramid O. & G. Co.'s Wheeler A-1, 16-18n-16w, elev 250 ft, co to deepen td 5210 ft. J. B. Hutchinson, Tr's Colquitt 1, 28-16n-13w, rur. Fallon Oil Co.'s (formerly Forbing-Persian Oil Co.) Cupples 1, 24-16n-13w, rur. Prairie River Oil Co.'s Hutchinson 1, sw nw 15-15n-12w, spd dr 1065 ft. R. E. Dalton's Leon Noel 1, sw se se 4-21n-14w, mim.

CLAIBORNE PARISH—Sugar Creek Synd. et al's Darrett 2, 31-20n-5w, elev 324 ft, dr 7702 ft. E. T. Oakes' Patton Est. 2, ne ne 1-20n-5w, elev 357 ft, base massive anhydrite 4238 ft, dr 4350 ft, anhydrite. Martin & Langford's White 1, se se 26-21n-8w, rur.

CALDWELL PARISH—Zeigen et al's La. Cent. Lbr. Co. 6, ne ne 18-14n-3e, arr to abn td 1790 ft.

DE SOTO PARISH—W. F. Hyde's Ramsey 1, se nw 36-11n-11w, sd 960 ft. Jas. E. Carlson's Garland 1, nw nw 7-14n-14w, woc 12½-in. csg 105 ft.

FRANKLIN PARISH—S. C. Jensen's Bailey 1, 12-11n-6e, sd 1435 ft.

GRANT PARISH—Tri-State Dev. Co.'s Ethridge 1, ne ne 19-7n-3e, sd 3012 ft.

JACKSON PARISH—Zeigen et al's La. Cent. Lbr. Co. 5, ne nw 13-14n-2w, owdd, td 1770 ft.

LINCOLN PARISH—Lide & Greer's S. Gardner 1, 10-17n-4w, elev 268 ft, tested 10 mil ft gas 6483-98 ft, tested drill mud and sg 6508-74 ft, cemtd 7-in. csg 6551 ft, td 6574 ft.

MOREHOUSE PARISH—Henry E. Rondeau et al's Clark 1, se ne 10-20n-7e, elev 99 ft, rur.

NATCHITOCHES PARISH—B. C. Morrison's Moffet 1, sec 19-10n-10w, woc 12½-in. csg 220 ft.

RAPIDES PARISH—Beatty, Bowles et al's Haas 1, ne ne 18-1s-2e, spd dr 1650 ft.

RICHLAND PARISH—J. S. Morrissey's Jones 1, 15-18n-7e, coring 2065 ft. Arthur Wray's Slocum 1, 10-17n-6e, dr 2585 ft.

RED RIVER PARISH—H. D. Conley et al's Long-Bell 1, ne ne 19-13n-9w, sd 3200 ft. T. B. Shaw et al's Teekel 1, 34-13n-10w, 7-in. csg 2500 ft, sd 2830 ft.

SABINE PARISH—Keen et al's Long-Bell 1, 5-8n-13w, rur. A. H. Tarver's Baker 2, 36-8n-12w, junked abn 5225 ft. Baker 3, 36-8n-12w, spd dr 865 ft. Whitehurst et al's Whitney Corp. 1, nw ne 8-9n-13w, 9⅝-in. csg 3234 ft.

TENSAS PARISH—H. M. Jones' Chicago Mill & Lbr. Co. 1, nw sw nw 29-12n-10e, base Jackson 776 ft, 8⅛-in. csg 776 ft, td 779 ft. Clara Nook Plant. 1, nw sw 32-12n-10e, woc surf csg.

WEBSTER PARISH—J. P. Evans' T. H. Johnson 1, sw nw sw 36-18n-9w, spd. Ohio Oil Co.'s R. L. Holloway 6, ne sw 23-21n-10w, elev 210 ft, cored 25 ft sand in Travis Peak, mov in 7-in. csg td 8369 ft. W. C. Feazel et al's Hooper 1, 8-17n-9w, sd 3016 ft. Red Hawk Oil Co.'s Baker 1, se nw 9-23n-9w, 12½-in. csg 200 ft sd, cur titles. Skidmore et al's Barnette 1, nw sw 29-17n-9w, woc surf csg.

MICHIGAN

ARENAC COUNTY—Tamblyn & Martindale's Buffalo Land Co. 1, se ne ne, 19n-3e-7, sp. Arenac Oil Co.'s Griffin 1, 19-5e-7, sd 100 ft.

ALPENA COUNTY—C. W. Teater's Nevins 1, 32n-6e-18, dr 1600 ft.

BAY COUNTY—H. L. McEvoy's Glander 1, 14n-3e-18, dr 900 ft. A. H. Webber's De Long 1, 16n-3e-35, dr 3310 ft.

CLINTON COUNTY—Petroleum Exploration Co.'s Cable 1, 5n-2w-12, fsg 2960 ft.

CLARE COUNTY—Fortney Oil Co.'s Neville 1, 17n-3w-19, dr 3600 ft.

GRATIOT COUNTY—Harley Williams' Smith 1, 9n-2w-29, sd 2800 ft. Oil Finder Inc.'s Stahl 1, nw nw nw, 11n-2w-28, dr 400 ft.

GENESEE COUNTY—Jerome Nadell's Olds 1, 9n-8e-35, sd 1600 ft. C. E. Bliss' Crawford 1, 9n-8e-27, rig.

IONIA COUNTY—Terry Dale's Tew 1, 6n-7w-12, dr 3350 ft.

INGHAM COUNTY — National Mineral's Smith 1, nw nw se, 4n-1w-9, rig.

KENT COUNTY—James S. Barton's Smith 1, 10n-10w-29, dr 2900 ft. Mich. Oil Exploration Co.'s Croff 1, 7n-9w-35, dr 3500 ft.

LAPEER COUNTY—Kinejenk Land Co.'s Morrison 1, 6n-9e-30, dr 1200 ft.

LAKE COUNTY—C. W. Teater's McCabe 1, 20n-12w-26, dr 3100 ft.

LENAWEE COUNTY — Socony Vacuum's Downing Est. 1, ne ne sw, 6s-5e-36, sp. Mott & Denman's Huffman 1, 6s-3e-26e, sg 1280 ft.

MASON COUNTY—St. Louis Pipe & Supply Co.'s Cartier 1, ne ne nw, 19n-5w-6, rig. Dragoon Dev. Co.'s Young 1, 17n-15w-15, dr 2550 ft. Northern Dev. Co.'s Burke 1, 17n-15w-26, dr 2450 ft. Sylvania Oil Co.'s Campbell 1, 17n-15w-10, dr 1500 ft.

MANISTEE COUNTY — Red Wing Dev. Co.'s Sands Lake 1, 21n-15w-15, dr 1200 ft.

MONROE COUNTY — Trenton Oil Co.'s Stone 1, 7s-6e-24, dr 1100 ft. Nicholas Hoffmaster's Bordine 1, ne se nw, 5s-6e-16, lcn.

MECOSTA COUNTY — Colmur Oil Co.'s Bell 1, c ne nw, 14n-8w-6, dr 1900 ft. F. V. McCollister's Joass 1, 15n-10w-8, dr 1100 ft. W. J. Bernier's Fitzgerald 1, 13n-9w-9, dr 1700 ft. Daily Crude Oil Co.'s Hoffman 1, nw sw se, 16n-7w-9, rig.

MIDLAND COUNTY—Brehm & Hollman's James 1, 15n-2w-20, Dundee 3619, so 3626 ft, csg 5-inch.

MONTCALM COUNTY—Terry Dale Inc.'s Higgins 1, 9n-8w-13, Robert E. Gallagher's Bentley 1, 11n-7w-33, dr 2000 ft. K. B. Montigel's Loree 1, 9n-5w-18, dr 970 ft. W. E. Voss Tr.'s Bristol 1, 10n-8w-23, sd 3100 ft.

TUSCOLA COUNTY—Dr. V. R. D. Kirkham's Boyce Farm 1, 14n-7e-24, pb 2893 to 2820 ft, to treat.

MISSISSIPPI

CLAIBORNE COUNTY—Claiborne O. & G. Drlg. Co.'s Crawford 1, 6-13n-4e, elev 115 ft, sd 930 ft. Claiborne County Dev. Co.'s Ruth Hayden 1, 56-11n-2e, lcn.

GRENADA COUNTY—H. T. Salter et al's Carpenter 1, 5-21n-7e, dk & mir.

HINDS COUNTY—Chichester et al's Gervin 1, 11-5n-4w, lcn.

JONES COUNTY—Snow-Black Pet. Co.'s Fox 2, 31-7n-12w, tested sw & sg 3876-78 ft, sd 3905 ft.

MONROE COUNTY—P. J. McAlpine et al's Crook 1, 4-13n-18e, owdd, td 2537 ft.

SIMPSON COUNTY—Goodwill O. & G. Co.'s Berry 1, 33-2n-4e, lcn.

SMITH COUNTY—Howie & Lewis' Broadfoot 1, 15-4n-7e, dr 1692 ft, sandy shale.

WILKINSON COUNTY—T. S. Stoneman et al's L. T. Ventress 1, 38-2n-3w, lcn.

WYOMING

BIG HORN COUNTY—J. L. Drumheller Government 2, nw ne se 17-49n-91w, dr 281 ft.

CARBON COUNTY — General Petroleum Corporation's Union Pacific 1, sw sw nw 5-19s-83e, coring at 2920 ft.

CONVERSE COUNTY—E. B. Jones' State 1, sw sw sw 16-32n-69w, dr 2669 ft.

NIOBRARA COUNTY—Lewis Gokel 1, sw ne 31-34n,62w, dr 745 ft. S. & H. Development Co. Olinger 2, cnl sw ne 1-35n-63w, fsg for bit at 1750 ft. The 4½-in. csg is set at 1715 ft. so water and gas from the Dakota.

WASHAKIE COUNTY—Wyoming Oil & Refining Co. Frison 1, nw sw nw 14-48n-97w, dr 2236 ft.

WESTON COUNTY—Conway Oil Co. Government 1, se se nw 7-41n-60w, dr 2338 ft. Oil sand at 2295-2305 ft, has been cemented off.

MONTANA

FERGUS COUNTY—H. C. Rowland Government 3, cel ne sw 18-17n-24e, dr 432 ft.

GLACIER COUNTY—L. P. Jackson and Stanley Grey Dunbar 1, nw se nw 22-34n-7w, ur 8¼-in. csg down to 3580 ft. to so small flow of water. Born Oil Co. Reynolds 1, ne nw 21-22n-4w, resuming dr 311 ft.

JUDITH BASIN COUNTY — Fletcher P. Hunt's Hobson 3, nw se ne 30-14n-15e, dr 386 ft.

PONDERA COUNTY — Gordon Campbell Hughes 1, nw ne nw 12-30n-4w, dr 2098 ft.

TETON COUNTY—R. C. Tarrant Wellenstein 1, nw nw sw 9-27n-5w, fsg for lost bit at 1365 ft.

NEW MEXICO

LEA COUNTY—Argo Royalty Co.'s Lanehart 1, sw se ne 21-25s-37e, mim. Barney Cockburn & Rowan-Nichols Oil Co.'s H. G. Mattern 1, c sw se 7-22s-37e, elev 3426 ft, td 3727 ft, est 1,500,000 ft gas and flows by heads. C. & G. Oil Co.-The Texas Co.'s Ellen Weir 1, c ne ne 14-20s-37e, elev 3564 ft, top anhydrite 1348 ft, showing sul w in Hobbs lime at 4045 ft, may dd, then pb. Culberson, Erwin & Stovall's J. S. Eaves 1, c sw nw 18-21s-33e, dr 915 ft. Gulf Oil Corp.'s L. M. Buffington 1, c nw sw 13-25s-37e, elev 3091 ft, est 15,000,000 ft dry gas 3062 ft, testing; S. J. Carr 1, c nw sw 3-24s-37e, elev 3267 ft, dr 2820 ft; Eunice A. King 1, c sw nw 28-21s-37e, elev 3469 ft, sandy-lime pay 3695-3804 ft, used 3000 gals acid, completed flowing 75 bbls oil 12 hrs via tubing; F. C. King 1, c sw nw 5-23s-37e, elev 3371 ft, cem 9-in csg at 3060 ft; W. T. McCormack 1, c ne ne 32-21s-37e, elev 3464 ft, acidized twice, shot 200 qts nitro 3695-3802 ft, testing; A. B. Reeves 1, c nw sw 29-20s-37e, elev 3529 ft, pb fr sul w 3859 ft to 3846 ft, acidized and shot, flowed 77 bbls daily, sd for tankage; J. A. Stuart 1, c sw ne 10-25s-37e, elev 3120 ft, tested 20,000,000 ft gas at 3381 ft, dd to 3431 ft, testing. Humble O. & R. Co.'s B. E. Boyd 1, c nw se 35-22s-37e, cem surface cas; W. B. Farrell 1, c sw se 22-22s-37e, elev 3341 ft, show o & g 3677-84 ft, sul w at 3691-94 ft, td 3705 ft, sd to cem 7-in csg 3367 ft; J. T. Lanehart 1, c ne sw 21-25s-37e, elev 3068 ft, sandy-lime pay 3359-67 ft, td 3565 ft, shot 230 qts nitro at 3317-3435 ft, completed flowing 72 bbls oil and small amount water daily. Jal Natl. Gas Co.'s C. T. Bates-Humble 1, c nw sw 20-25s-37e, cem sur cas. Landreth Prod. Corp.'s E. H. Grizzell 1, c se sw 5-22s-37e, elev 3437 ft, making gas, dr 3550 ft. Harry W. Leonard et al's B. T. Lanehart 2, c se nw 21-25s-37e, elev 3067 ft, dr 1100 ft. Magnolia's E. A. Carson 1, c nw sw 28-21s-37e, elev 3463 ft, top salt 1348 ft, top lime 2700 ft, tested 5,780,000 ft gas 3490-3506 ft, td 3582 ft, sr; Will Cary 1, c ne se 21-22s-37e, elev 3361 ft, top anhydrite 1108 ft, shot 180 qts nitro 3490-3550 ft, swab and flowed 30 bbls 8 hrs; Scharbauer-Eidson 1, c nw ne 29-16s-35e, mim. N. G. Penrose & Rowan-Nichols Oil Co.'s Will Cary-Humble 3, c se nw 22-22s-37e, elev 3364 ft, sd 1150 ft; Cary 4, c sw nw 22-22s-37e, sd 1146 ft. Plains Production Co.'s R. L. Moseley-Repollo 1, c nw se 34-24s-37e, elev 3168 ft, sul w at 3550-51 ft, pb to 3530 ft, flowed 9

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bbls oil per hr via tubing after 250-quart nitro shot. Repollo Oil Co.'s Frances Stuart 1, se nw se 10-25s-37e, elev 3114 ft, re-cem csg, td 2885 ft; J. M. Brownlee 1, ne ne sw 25-21s-36e, lcn. Samedan Oil Corp.'s Marshall 1, c sw nw 12-21s-36e, elev 3540 ft, td 3861 ft, used 2000 gals acid, swabbed dry, reacidized with 5000 gals, testing; C. U. Parks 1, sw sw sw 14-22s-37e, elev 3339 ft, sul w 3780-90 ft, pb fr 3800 ft to 3610 ft, shot 245 qts 3502-3610 ft, sd to run 5-3/16-in csg; Hughes 1, c ne sw 4-23s-37e, lcn. Skelly Oil Co.'s J. V. Baker 2, c nw nw 27-22s-37e, elev 3341 ft, dr 2800 ft; Ellen Sims 1, c nw se 3-22s-37e, elev 3300 ft, rust, td 3375 ft; F. S. Stuart 1, c ne nw 15-25s-37e, elev 3107 ft, dr 2850 ft. Sun Oil Co.'s B. T. Lanehart 1, c se se 20-25s-37e, elev 3042 ft, top anhydrite 971 ft, top salt 1145 ft, td 2757 ft, mudded off gas, shot off stuck tubing, then lost 5 jts csg. The Texas Co.'s L. L. Clardy 1, c se se 13-16s-36e, lcn; E. D. Fanning 1, c se ne 4-24s-37e, elev 3293 ft, dr 1350 ft; E. L. Alexander 1, c lot 3, or c nw sw 7-21s-37e, elev 3504 ft, base salt 2530 ft, td 3835 ft, flows 35 bbls fluid, 40 percent wash water, and 2,500,000 ft gas daily. Tide Water Oil Co.'s Anna Walden 1, c se ne 21-22s-37e, elev 3352 ft, swabbed 35 bbls oil daily at 3575 ft, dr 3580 ft.

OKLAHOMA

ATOKA COUNTY—Prairie Investment Co.'s Cobb 1, sw ne nw 19-3s-11e, dr 315 ft. Phelps & Coats et al's Fidelity 1, se sw nw 23-1s-12e, sd 750 ft.

BECKHAM COUNTY—Jo-Gail Drlg. Co.'s Gilliland 1, cne ne 3-8s-26w, ru & sd.

CARTER COUNTY—Carter Oil Co. et al's Leon Voorhees 1, cse sw 34-5s-2w, dr 6955 ft. Hammond's Lile 1, sw se se 8-5s-1e, sd 475 ft.

COAL COUNTY—Shell Pet. Corp.'s Hill 3, se se nw 30-3n-10e, bailing sws "Sinclair Prairie's Culver 1, ne ne sw 16-1n-8e, dr 1270 ft. Mitchell's Quiett 1, ne nw sw 35-1n-8e, td 1900 ft, wocs. Carter & Magnolia's James 1, sw nw sw 35-1s-8e, dr 1315 ft. Continental's King 1, ne sw ne 26-1n-8e, dr 505 ft.

GARFIELD COUNTY—Sherry et al's Hoken 1, nw nw sw 32-20n-4w, dr 6865 ft. Stanolind-Amerada's Brunken 1, sw sw ne 32-23n-4w, rur to dd.

GARVIN COUNTY—Carter et al's Wood 1, nw sw se 5-4n-3e, td 3018 ft, bailing fluid. McElreath & Suggett's Lasater 1, se se sw 2-2n-1w, sd 3955 ft. Luttrell et al's Howell 1, nw se nw 34-1n-1e, dr 70 ft.

GRADY COUNTY—Art Holt et al's Ramsey 1, ne se ne 31-5n-8w, pits.

HARMON COUNTY—Lioalko Trust's Crasnoe 1, se se sw 14-3n-25w, sd 2870 ft.

HUGHES COUNTY — Phillips Pet. Co.'s Eberle 1, ne ne sw 12-5n-9e, td 5540 ft, recementing. Sivils et al's Montgomery 1, nw sw nw 7-9n-9e, dr 3475 ft. Blackwell O. & G. Co.'s Long 1, se ne nw 29-9n-9e, co 1642 ft. Sinclair Prairie et al's Wilkey 1, sw sw sw 23-9n-8e, sd 3025 ft. Blackwell O. & G. et al's Homahte 1, sw ne ne 1-9n-10e, rur.

JACKSON COUNTY—Burnham's Oliver 1, nw nw se 26-1n-20w, dr 2060 ft. Ben Russell's Daniel 1, nw ne se 13-3n-20w, dr 850 ft. Jackman's Fee 1, sw sw sw 27-1s-24w, fsg 2685 ft. Delaney's Mock 1, cne sw 32-1n-20w, td 190 ft, woc.

JEFFERSON COUNTY — Pearson et al's Douthitt 1, ne ne ne 24-6s-9w, sd 2202 ft.

JOHNSTON COUNTY—Shell Pet. Corp.'s Illinois Bankers Life 1, nw se ne 10-2s-7e, dr 225 ft.

KAY COUNTY—Allen & Texas Co.'s Fulton 1, se se se 18-27n-4e, dr 1675 ft.

KIOWA COUNTY—Beeler & Klein's Parrish 1, se se nw 3-6n-15w, dr 230 ft.

LINCOLN COUNTY—Amerada et al's Zimmerman 1, sw sw ne 10-12n-5e, ur 8-in csg 4358 ft. Mid-Continent's Hillman 1, sw se ne 29-13n-6e, dr 3670 ft. Skelly's Sporn 1, nw ne sw 21-17n-3e, br.

LOVE COUNTY—Amerada-Stanolind's Westheimer & Daube 1, sw se sw 27-6s-2e, td 7363 ft, pb 2970 ft, testing. Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, dr 8736 ft. Riddle et al's Johnson 1, csw se 20-8s-2w, lcn.

MARSHALL COUNTY—Helmerich & Payne's Taliaferro 1, nw se sw 26-5s-5e, dr 1950 ft. Sherril & Rounds' Taylor 1, sw ne ne 30-7s-7e, rig.

McCLAIN COUNTY — Arab Pet. Corp.'s Autry 1, nw nw nw 16-7n-3w, td 8775 ft, pb 8371 ft, d & a.

McINTOSH COUNTY—Dieckman's McIntosh 1, se se se 4-12n-17e, dr 905 ft. I. T. I. O. Co.'s Toncred 1, sw sw ne 9-9n-14e, td 4536 ft, pb 2731 ft, d & a.

NOBLE COUNTY — Stanolind - Amerada's Gillham 1, ne se se 14-22n-1e, dr 1100 ft.

OKFUSKEE COUNTY—Champlin Ref. Co.'s Thompson 1, sw sw nw 7-13n-8e, td 1147 ft, d & a.

OKLAHOMA COUNTY—O'Shaughnesey Inc.'s Berlowitz 1, se sw ne 9-12n-3w, dr 4725 ft.

OSAGE COUNTY—Gray & Tolson's 1, sw sw ne 33-25n-7e, dr 1945 ft. Stoner & Miller's 1, nw ne sw 18-22n-8e, dr 550 ft.

PAYNE COUNTY — Amerada - Stanolind's Pratt 1, se se se 29-19n-5e, killed gas 3685 ft, to dd. Denver Prod. et al's Pratt 1, nw nw nw 20-18n-3e, td 4175 ft, d & a.

PITTSBURGH COUNTY—Oklahoma Dist. Oil Co.'s Beeler 1, ne ne sw 7-7n-14e, rur.

PONTOTOC COUNTY—Selby O. & G. Co.'s Sands 1, ne ne ne 20-3n-5e, ur 1876 ft.

SEMINOLE COUNTY — Tom Phillips & Kimraw Drlg. Co.'s Chemperney 1, se se nw 7-6n-7e, dr 3065 ft. Twin State's Hamm 1, sw se sw 24-10n-7e, coring 3435 ft. Crosbie's Casey 1, cn½ n½ ne 30-6n-8e, dr 2110 ft. Arkansas Royalty Co.'s Kiker 1, se se ne 9-10n-7e, dr 2947 ft. Deaner & Tilley et al's Wilson 1, se sw sw 29-7n-6e, td 33 ft, woc. Rudco O. & G. Co.'s Butner 1-A, ne ne sw 15-9n-8e, dr 900 ft.

STEPHENS COUNTY—Endicott et al's McFatridge 1, nw nw sw 11-3s-9w, fsg 1450 ft. Ed Parson's Olson 1, csw sw 21-2n-8w, rig.

TILLMAN COUNTY — Gulf Oil Corp.'s Wearmouth 1, se nw se 31-1s-16w, dr 4916 ft. Johnson, Young & Mitchell's Donahoe 1, se nw nw 7-4s-17w, dr 2605 ft. Gulf Oil Corp. et al's McWilliams 1, nw sw sw 15-3s-17w, dr 3355 ft. Bernheim's Tate 1, ne ne nw 16-1s-19w, dr 912 ft. Shirley Clum et al's Moriele 1, nw nw se 16-4s-14w, sd 1331 ft. Smith's Hammill 1-A, ne nw nw 6-5s-15w, dr 1778 ft.

SOUTH TEXAS

ARANSAS COUNTY—Buchingham Oil Co.'s McCampbell 1, James Orick sur, 2 mi nw of Aransas Pass, td 7501 ft, pb 6534 ft, blew out while making dst, move in new rig.

ATASCOSA COUNTY—Lee Tr.'s Doumch 1, 152-ac tr, blk 10, J. T. Russell sur No. 1222, 3 mi n Poteet, 3519 ft, set 7-in csg 3460 ft, top chalk 3503 ft, dr 3590 ft. Helvetia Oil Co.'s Pratt 1, 176-ac tr, J. de la Garza sur No. 46, 1 mi nw Anchorage, dr 1400 ft.

BASTROP COUNTY — Marts & Beavens' Parkford & Jenkins 1, center lot 24, Bastrop Town tr, dr 2750 ft. J. E. Mills' C. O. Randle 1, 100-ac tr, B. Brymer sur, 4 mi se Cedar Creek field, td 2440 ft, 5-3/16-in csg 2228 ft, washing to bottom. Texon Royalty Co.'s H. B. Smith 1, 1200 ft nel, 3450 ft nwl of E. Standifer sur, d & a 2502, top chalk 1708, top Buda 2160, top Del Rio 2200, top Edwards lime 2460.

BEE COUNTY—Geo. M. Church et al's C. A. Ray 1, Anna Burk sur, 2 mi e Beeville, coring 4500 ft. Dirks Bros.' M. M. Bergel 1, s 46 ac of w 86 ac of E. C. White sur, ½ mi sw Voss field, dr 2775 ft. Eden Oil Co.'s J. E. Copeland 1, Obed Marshall sur, dr 2150 ft. Marine Oil Corp.'s J. C. Woods 1, 427-ac tr, J. Ryan sur, disc well, Beeville field, sd 5831 ft. Nichols & Quinn's J. R. Scott 1, blk 7, Howeth & Swiger sub, Uranga gr, sp & sd, wor. H. A. Pressey's R. T. Hicks 1, 1120-ac tr, Jose M. Uranga gr, ab 568, 4½ mi s of Normana, td 3568 ft, broken sand, shale and shells 3482-3568 ft, show dry gas, set and cemented csg on btm.

BEXAR COUNTY—American Gas Co.'s Oliver No. 5, 400-ac tr, M. F. Rodriguez sur, Gas Ridge, dr 3108 ft in hard lime. Carter & Ingersoll's Louis Mann 1, 60-ac tr, John Christopher sur, 3 mi s Von Ormy, td 1085 ft, running 5⅝-in csg and will then dd into chalk. Joe Deupree's Mrs. R. S. Nina (R. S. Coffey) 1-A Rodriguez sur, 7 mi s San Antonio, sd 1200 ft, to recement csg at 1059; R. S. Coffey 2, F. Rodriguez sur, dr 895 ft, sh. B. Schumacher's Hilda Gillette 1, 49-ac tr, M. C. de Alamiz sur No. 20, 7 mi s San Antonio, dr 1003 ft. F. M. Shaver's A. W. Bitter 2, Jose Baerrera sur No. 58, 2 mi nw Von Ormy, coring 1178, top chalk 1171 ft. Dr. L. Skaggs' P. A. Chapman Jr. 1, 600 ft w Aviation Blvd (el), 450 ft sl of 125-ac tr, A. J. Leslie sur No. 99, 10 mi sw S. A., dr 900 ft. Fred Thorman's A. L. Salm 1, 330-ac tr Peter N. Hays sur No. 3, dr 1535 ft. R. P. Whitfield's Col. John Sweeny 1, GH&SA RR sur, 11 mi sw San Antonio, td 794 in sandy shale, set csg, wocs. Woodward & Hardio's R. W. Devilbiss 1, John W. Devilbiss sur, 1 mi w Thelma, td 2280 ft, set csg abt 2200 ft.

BROOKS COUNTY — California Co.'s E. Garcia 1, tr No. 3 Las Mestinas de Gonzalina gr, Alta Mesa dist, fsh at 8022 ft, stuck ds. Fairway Prod. Co.'s Wm. Singer 1, sur 312, 1500 ft, se Alta Verde disc, dr 250 ft. Starr Dev. Co.'s Wm. Singer 1, sec 436, abt 700 ft Alta Verde disc, test sul/3 in snd 1007-21 ft, td 1040, set 5½-in csg 840 ft, perf in sand 810-25 ft, comp est 3 mcf gas day.

CALDWELL COUNTY—H. B. Starkey's (T. J. Elam et al's) Francis-Brown-Cochran 1, W. F. Young sur, 5 mi e Luling, sd 1200 ft shale. W. C. Jennings & Whittington's McMahan 1, James Pinchback sur, se Lockhart, td 2343 ft, pb to 229 ft, in Eagleford, 5-3/16 csg at 1445 ft, testing. Wheelock & Collins' Alexander 1, approx center 150-ac tr, O. S. Alexander sur, sp.

CALHOUN COUNTY—Blanco Oil Co. &

Al Buchanan's P. H. Welder, D. L. Palmer sur, 1 mi ne Heyser disc well, mim. Continental's Austin (Vandenburg) 1, sec 12, blk "H," Pedro Garcia sur, 1 mi n of other heaving shale wells, Seadrift prospect, td 6614 ft, set 11¾-in csg at 6598 ft, woc. Humble Oil & Refining Co. & Plymouth Oil Co.'s E. H. Welder 2, ¾ mi sw Heyser disc well, Jose Maria Rias sur, reaming td 5470, td in oil sand. Matagorda Oil Corp.'s (Hilton & Wiese) J. Brundrett 1, Wm. Bittle sur, sd 502 ft.

DEWITT COUNTY—L. W. Capps et al's H. Buchhorn 1, 211.1-ac tr, S. V. Slade sur, at the town of Lindenau, 5 mi w Cuero, ds 675 ft. Universal & Gillespie's Schubel 1, C. Fitzgerald sur, abt 2 mi nw Yoakum, td 1559, dr out cement, no show, sd.

DUVAL COUNTY—Conservative Oil Co.'s DCRC 1, sur 51, 2 mi se Colemena field, td 1553 ft, set csg on bottom, perf csg 1532½-36 ft, set plug at 1548 ft, swabbed sw & some oil, will dd. Gifford Oil Co.'s A. S. Roach 1, sur 200, 7 mi sw Driscoll field, sd 2000 ft. C. G. Glasscock's Milano Land & Gardens Co. 2, sec 88, 4 mi se Loma Novia, td 3298 ft, set csg 3291, sd. Frank J. Gravis et al's Gravis et al 1, sec 250, 9 mi w San Diego, td 5150 ft, sd 5137 ft in sdtr hole; Schallert 1-A, sec 555, Palangana salt dome, sp. M. D. Mastin's D. Ruiz 1, sur 128, 1 mi w Hoffman field, d & a 3003, set csg abt 2700 ft, perf 2604-10 ft. W. C. McBride Inc.'s C. & A. B. Cueller 1, sur 123, ½ mi w Hoffman field, d & a 2965 ft. Navarro Oil Co.'s W. R. Peters 1, w 380-ac sur 39, n of Peters field, coring 2741, oil, gas & sw sand 2615-2734 ft. John J. O'Hern's L. B. Carrillo 1, sur 192, 4 mi s Hoffman field, d & a 3307 ft. Pan American Prod. Co.'s J. F. Welder Heirs 1-H, 330 ft nl & wl of 160-ac lse in sur 103, 1 mi sw of Loma Vista, lcn. Randon Oil Co. & Central Securities Co. 1, lot 23, Central Securities sub, Diego Minjosa, 5 mi sw of Realitos, dr 2875 ft. Rogers & Rogers' Rita S. de Pena 1, R. S. de Pena plat, El Mesquite Trindad Vela gr, se Cole field, td 2862 ft, sand 2850-62 ft, set csg 2845 ft, swabbing & showing some 43 grav oil. Smith & Hamill's Juan Benavides 1, Juan Benavides lands, E. Mesquite gr, sd 2300 ft, wow. Shell's J. F. Welder Heirs 1-B, 330 ft sl & wl of 79.3 ac lse in sur 69, 1¼ mi nl Loma Vista field, lcn. Stanolind O. & G. Co.'s Ira G. Yates 5, sec 416, Labbe, td 2490, tested sw & sd for orders. Starr Development Co. Inc.'s J. B. Peal, sur 796, 1 mi ne Lopez, dr 400 ft.

FRIO COUNTY—Amerada's Halff & Oppenheimer 7, B. J. Gilman sur, Pearsall, sd 3926 ft; Arthur Michael 2, A. Lynch sur No. 321, Pearsall, dr 2455 ft; C. A. Miller 1, 394.3-ac tr in B. Saltello sur 323, Pearsall, dr 3670 ft. Termo Co. of Texas' J. D. Arp 1, 102-ac tr, S. Blain sur, 4000 ft w Pearsall field, td 5870 ft, prep run csg, top Austin chalk 5502 ft, will dr to hard ch.

GOLIAD COUNTY — Keystone Royalties Co.'s C. B. Wood 1-A, Rios sur, 3 mi e Berclair, sd 6702 ft. Claude Morgan et al's Mrs. W. O. Maetze 1, G. Barrera sur, ru. Zeni Oil Co.'s M. Lutenbacher 3, sw ¼ of blk 25, Goliad Town sur, 2 mi s Goliad, dst 4150-60 ft, slight gas flow, dr 4725 ft.

GONZALES COUNTY—Tull et al's Boska 1, 61.2-ac tr, B. McClure sur, co 2050 ft.

GUADALUPE COUNTY — Ira L. Armstrong's F. H. Fieke 1, 304-ac tr, B. & G. Fulcher sur 19, near Staples, sd 340 ft. Pat Armstrong's J. Z. Fulcher 3, Robt. Smith sur, 2 mi sw Prairie Lea, sd 2477 ft. J. E. Clark's E. W. Williams 1, Green DeWitt sur 13, 4000 ft sw S. Darst Creek, td 2509 ft, chalk 2358 ft, 6⅝-in csg at 2357 ft, pb to 2495 ft, comp on pump, no gauge. Clark & Weinert's W. O. K. Anderson 1, Green DeWitt sur 11, 6 mi s Kingsbury, hole lost 2232, skid over 50 ft, sp. Eickenroht & Gallagher's O. H. Jahns 1, 840-ac tr, Green DeWitt sur, 3 mi sw South Darst Creek, td 3134 ft in Buda, ream to 2750 ft, will set csg.

HIDALGO COUNTY—J. T. Barlow et al's Chapa 1, tr 252, por 39, n side Samfordyce field, td 3200 ft, pb 2800 ft, coring at 2865 ft in sd/tr hole. Gulf States Oil Co.'s J. C. Engelman 3, lot 3, blk 70, Las Mestinas gr, 700 ft e Mestinas disc well, td 6812 ft, 7-in csg 6754 ft, perf 6688-6896, comp 145 BPD 3/16 ch, tp 1350 lbs, cp 2125 lbs, 11/64 ch. Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Impr. Dist.) 2, lot 1, blk 20, Alamo Land & Sugar Co. sub, Alamo gr, 4 mi s Alamo, sd 731 ft. Quintana Pet. Corp.'s John C. Engelman 1, lot 10, blk 94, Mestinas gr, 4 mi se Mestinas field, sd 8904 ft, cut out ds to 1754 ft. Dayle L. Smith Oil Co.'s Fairbanks & Young 1, blk 44, porc 46, Reynosa Juris, 4 mi e Samfordyce field, sd 1856 ft. Union Sulphur Co.'s ARGL&I 7, tr 2309, blk 59, 4000 ft e Mercedes field, td 7608 ft, 5-in csg 7530, dr ahead; ARGL&I Co. 8, lot 2120, blk 87, N. Capisallo district, N. Mercedes field, td 7822 ft, 5-in csg 7822, pb to 7500 ft, pb to 7218 ft, will sd/tr; ARGL&I Co. 9, Farm tr 2268, blk 59, N. Capisallo district, ½ mi e Mercedes disc well, d & a 7654 ft. G. W. Wheeler's F. Farias 2, sh 255, por 39, Samfordyce area, td 3200 ft, perf 2832-51, coring 165 BPD. Yates McCurry's Southland Dev. Co.'s 1, lot 13, blk 24, Alamo sub, 2¼ mi s of Alamo, sp & sd, dropped until work resumes.

JACKSON COUNTY—Steinberger Pet. Corp.'s Drushell 1, lot 6, Gale sub, Hayes ranch, N. Rodriguez sur, edge Edna gas field, dr 1400 ft.

JIM HOGG COUNTY—J. J. Cosner's E. Vela Heirs 1, blk 5, Clark & Cowder sub, sur 571-572, sh 1, El Peynote gr, 5 mi se Henne-Winch Farris field, lcn. Theo Hicks et al's Kohler 1, blk 9, sub Noriscitas gr, 3 mi nw Hebbronville, lcn. Magnolia's Magnolia-Holbein 1, sur 36, Villareal sub, Agua Nueva de Arriba gr, coring 4238. Stevens et al's J. Gray 1, 1320 ft wl, 2640 ft nl, 2890-ac tr, Noriacitas sur, lcn.

JIM WELLS COUNTY—Gist & Graddy's B. W. Owens 1, Poitevent sur, nw Bentonville field, sd 1934 ft; J. Bennett 1, lot 87, sec 76, Holdeman sub, 2 mi w Premont field, dr 1265 ft. E. M. Jones' R. Adams 1, se cor of blk 47, Weldron Oil & Gas sub of Robert Adams Ranch, 1½ mi w Alfred, td 5815 ft, pumping with baroid and kolax to prevent blowout. La Jita Corp.'s Fred Erck 1, sec 15, 1 mi n of Bentonville disc well, dk; W. E. Pope 1, sec 20, 1½ mi w of King Ranch field, dst 5330-51 ft, 550 lbs pressure 19 minutes, 170 ft oil & mud, reamed through gas sand, dst 5340-51, showed 510 ft plo, 12 min, 150 lbs pressure ¼ & ⅜ chokes, set csg at 5340 ft. Stanolind O. & G. Co.'s Frame & Bowers 1, sec 14, King Ranch sub, 1 mi ne Bentonville disc, dr 3645 ft. J. E. Saim 1, sec 18, n offset discovery well Bentonville field, td 5850 ft, set csg 4880 ft, pb to 4340, show 300 ft sw 5 min no pres, ¼ & ⅜ chokes, pb to 4000 ft. J. J. Thompson 1, sec "A," King Ranch, 150-ac tr, sand 5395-5400, dst 5357-5405, show 100 ft mud with a trace of oil, ¼ & ⅜ chokes, 15 min, no pressure, running electric formation test.

KARNES COUNTY—DeGraffe & Reele's Cochron 1, McConnell league, 5 mi ne Riddleville, ru & sd. Hickman et al, R. L. Barnett 1, Alex Hunter sur, sd 1595 ft. Worth Oil Co.'s E. Hysaw 1, 1069.8-ac tr, Don Erasmus Seguin gr, w of Kennedy, set sur csg, wor.

KERR COUNTY—Auld & Evans' I. R. Henner 1, sec 13, BS&F sur, 25 mi nw Kerrville, sd 2838 ft.

KIMBLE COUNTY—Dr. B. R. Thomas' B. D. Rust 1, sw ¼ sec 47, BS&F sur, 13 mi nw Junction, sp & sd.

KLEBERG COUNTY — McCork & Day-

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bault's Killam 1, lot 7, sec 53, DT&I sub, 5 mi se Recardo, lcn.

LA SALLE COUNTY—Davenport & Talbot's G. Watkins, sur 103, 25 mi e Encinal, sd 2729 ft. Kennedy & Johnston's Gilmer & Wildenthal 1, 140-ac tr, sur 283, 8 mi se Cotulla, partly ru & sd. Paul Meadors & Adair et al's Reed 1, sec 136, T. Conlan sub, 15 mi e and 10 mi s of Cotulla, dr in sd/tr hole. W. H. Vernor's M. G. Jeffries 1, sec 726, HE&WT Ry sur, 10 mi se Artesia, prep sp.

LAVACA COUNTY—Cole Pet. Co.'s F. A. Kurz 1, 75-ac tr, E. Goodman sur, 3½ mi n Shiner, sd 1365 ft. Goode & Mayton's M. Schaeffer et al 1, 481-ac lse, W. R. Hensley sur, lcn.

LIVE OAK COUNTY—Dirks Bros.' A. E. Nichols 1, S. Ryan sur, sd 1125 ft. Adolph Douvre's San Antonio Joint Stock Land Bank 1, plat 27, Tips subd, Richard Everett sur, 2 mi nw Three Rivers, reconditioning hole, well blew out, ran wild for two days, killed after pumping 200 sacks of baroid into hole, upper Cockfield 1784-93, upper portion carried 25 mcf gas volume, lower portion show sw cored shale to 1799, saturated sand and shells 1799-1800 ft. Inter-Allied Pet. Corp.'s Aetna Life Ins. Co. 1, J. Poitevent sur, 49.47-ac tr, 6 mi ne Dinero, dk & sd. J. J. McRoberts et al's J. D. Mahoney 1, 142-ac tr, Thomas Henry sur, 3 mi w Three Rivers, sd 700 ft. Windsor Oil Co.'s B. E. Stolts 1, tr 9, J. Ingram sur, Ab 261, n part of county, sd 3498 ft, may abn.

McMULLEN COUNTY—Rancho Oil Co.'s La Chusa 1, 330 ft nl & wl of se ¼ of sur 52, lcn. C. C. Shumway's Shiner Ranch 9, sec 51, Shumway sub, Shiner Ranch, 9 mi s Wetz, dr 500 ft.

MEDINA COUNTY—Frank A. Brown's Mary Mill 1, John Ward sur, dr 1100 ft. N. C. Johnson's Taylor 1, 320-ac tr sur 136, d & a 1249 ft, set 6⅝-in csg at 524½ ft, top Austin chalk 753 ft, top Eagleford 1005 ft, top Buda 1046 ft, top Del Rio 1122 ft, top Georgetown 1192 ft, top lime 1248. N. C. Johnson's R. T. Taylor 2, 360 ft el, 168 ft sl of 320-ac tr, Henry Castro sur 136, prep mim. Thomas & Rife's Amelia Zadich 1, S. O. Lubbock sur 509¾, se cor county, dr water well.

MILAM COUNTY—J. O. Kolgore Tr.'s W. R. Newton 1, J. Reed sur, Buckholt, sd 2010 ft.

NUECES COUNTY—Mills Bennett's J. K. Ordner 1, 120-ac tr, AB&H sur 410, ab 991, ½ mi w Saxet field, dr below 5000 ft. V. L. Blanchard's T. H. Isensee 1, blk 8, R. Schaefer land sub, 1½ mi w Clarkwood, ran electric formation tests, d & a 5910 ft. Coastland Oil Co. & Keystone Royalties' (Paul Benedum et al) Page Bros. 1, s 50-ac share 2, Geo. Franks sub, 3300 ft w Saxet field, td 5931 ft, pb dst 5740-58, show 22 fourbles gasoline & mud, 450 lbs pres in 5 min, sand 5741-58, td 5758 in sd/tr holes, set 5-in csg on btm. Conroe Dr. Co.'s Rand Morgan 1-B, BS&F sur 403, Saxet, coring 6375 ft. J. T. Cox's John Haney, share 11, Harney lands, Gregoria Farias gr, 2½ mi se Callahan, sd 2085 ft. M. F. Hurburt's J. C. Phillip 1, lot 9, 20-ac tr, sur 48, Flour Bluff Encinal Garden Tracts, 9½ mi se Corpus Christi, td 7503 ft, prep set csg at 5850 ft. W. P. Hinds' Edwin Flato 1, center blk 8, sec 187, 1½ mi sw Clara Driscoll field, sd 3880 ft for repairs. O. W. Killam's Betty Ellich 1, 86.28-ac tr sec 109, Pauls sub, 4000 ft sw Clara Driscoll field, td 3899 ft, reworked, comp as wet gasser, 1380 lbs TP, 1450 lbs CP, perf 3258-68, sand 3811-17; Betty Ellich's, 600 ft s No. 1 Ellich, moving in dk. Terminal Oil Products Co.'s R. V. Thurman 1, sw¼ sec 10, Flour Bluff Garden Tracts, Rincon del Oso Grant, dr 6048 ft. The Texon Drl. Co.'s Mable Eliff 1, 466 ft w of el, 2194 ft n of sl of 3054-ac tr in A. Longria sur, 2½ mi sw of Agua Dulce field, dr 3532 ft.

REFUGIO COUNTY—Mills Bennett Prod. Co.'s Fred Walzell, 330 ft nl & el of sec 13, Bonnie View sub, E. Lopez sur, 7 mi s Refugio, coring 3785 ft. Benedum & Trees' R. H. Welder 1, commence west corner Friedline pasture, thence n 53 degrees east 4443 ft to location in Juan Pabedano sur, ab 49, derrick. Tide Water's E. G. Landgrof 1, 220-ac tr, J. Collyer sur, eastern portion county, bldg road.

SAN PATRICIO COUNTY—Atlantic Oil Prod. Co.'s Maryland Trust Co. 1, blk 17, B-C sub, 1150 ft sw discovery well, Aransas Pass field, dr 1610 ft. Trees' Mrs. E. H. Welder 2, sec 19, Welder Ranch sub, 3½ mi ne Sinton, td 7019 ft, pb 5027 ft, tubing hung; E. H. Welder 3, sec 19, Welder Ranch sub, d & a 6140 ft. C. B. Bunte's W. C. Mayfield 1, tr 11, Roos sub, 2 mi n White Point field, sp & sd. O. W. Killam's J. F. Green Est. 1, 782-ac tr, R. Roos sur, 1½ mi sw Taft field, sp. Joe Lundin & Rowan & Hope's Mrs. E. W. Welder 1, sec 80, Welder Ranch sub, 2½ mi sw St. Paul, dr 4970 ft. Plymouth Oil Co.'s E. H. Welder 2-D, sec 4, Welder Ranch subd, 1 mi e Sinton field, dr 2550 ft; E. H. Welder 50-C, 526 sl, 1477 ft wl of sec 50, Welder Ranch sub, dr 5856, well is below regular producing level. Taft Prod. Co.'s W. D. Thomas 1, 150 ft nl and el of tr 3, sec 6, Taft Farm Lands sub, 1 mi e Taft field, dr 350 ft.

STARR COUNTY—J. F. Anderson's Yzaguirre 1, 139-ac tr, porc 79, reaming 1955 ft. Bishop & Henshaw's W. D. Martin 1, sur 627, 13 mi n Rio Grande City, dr 3050 ft. Porter Evans' SCCC 1, porc 89, 10 mi se Rio Grande City, dr 570 ft in shale; H. F. Ferry 1, blk 3, Evans sub, Ferry lands, porc 86, 7 mi se Rio Grande City, ru. H. C. Hartor's Sanchez 2, lot 3, sh 72, por 72, 9 mi n Roma, d & a 1103 ft. A. A. Kelley's H. Gonzales 1, 300 ft wl, 100 ft nl of 100-ac lse, sh 62, por 71, sp & sd. Killam & Staggs' S. D. Ricaby 2, porc 83, Camargo Juris, 3 mi e Rio Grande City field, d & a 2503 ft. Larkin & Warr's Kelsey Bass 1, lot 8, Coastal sub, porc 87, Barbacosa area, dr 5105 in shale, will be drilled to 6000 ft. Ed. Leach's Wardner Trustee (Donna Est., Inc.) 1, porc 84, sd 2149 ft. A. G. McMath's M. Guerra & Son 1, 150 ft sel, 750 ft swl of blk 25, conroe subd, porc 55, Juris of Mier.

WEBB COUNTY—French Oil Corp.'s S. Benavides 1, sec 2254, 3 mi n Oilton, d & a 2242 ft, dr 50.

WILLACY COUNTY—Shell Yturria Land & Cattle Co. 1, sh 64, San Juan de Carritos gr, La Sal Veja prospect, td 5486 ft, pb to 4600 ft, coring below 6330 ft.

WILLIAMSON COUNTY — Fritz Fuchs' Jackson 1, Fred Murray 80-ac tr, H. Owen sur, ru. Graham et al's V. F. Pfluger 1, 2083 ft el, 4350 ft sl of J. Jordan sur, near Coupland, sd 300 ft. James H. Holdeman et al's Amor Forwood 1, 160-ac tr, HT&B Ry sur, sec 4, sur 14, sd 965 ft. W. H. Moody's J. F. Stiles 1, 230-ac tr, J. Bevil sur, ½ mi sw Thrall, lcn.

WILSON COUNTY—Otto Hierholzer's E. M. Hierholzer 1, B. Salinas sur, 12 mi sw Floresville, lcn. A. G. Reimenschneider's Lon Harrell 2, 209-ac tr, Manuel Baerrera sur, 5 mi s of Floresville, sd 740 ft.

ZAPATA COUNTY — Ivan Howard's Y. Martinez 2, blk 1, sur 241, 4 mi nw Cuellar field, d & a 2511 ft.

ZAVALLA COUNTY—Bay Oil Corp.'s Nat. Bk. of Commerce 1, sec 43, blk "A," AB&M sur, 16 mi se Batesville, td 6585 ft, top Buda lime 6480, pb to 6250, acidized, showed some oil, will either reacidize or shoot. W. L. Bridges' E. B. Flowers 1, sec 19, blk 1, I&GN Ry sur, d & a 450 ft. Frank Buttram et al's Whitecotton 1, AB&M sur 1, sd 5475 ft, top chalk 5281 ft, Leana Oil Corp.'s George West 1, C. Bustillo sur 1, top chalk 5760 ft, sd 6020 ft, contract depth.

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NEW PRODUCTS FOR THE FIELD
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VALVES
Taylor Instrument Companies

Taylor Instrument Companies, Rochester, New York, are offering a completely redesigned line of "Motosteel" diaphragm valve motors, the first to employ an all-steel welded construction, and featuring "Evenaction" valves. This new construction is lighter in weight, stronger, and has greater resistance to shocks and strains than the cast iron type, the manufacturer claims.

Diaphragm Valve Motor

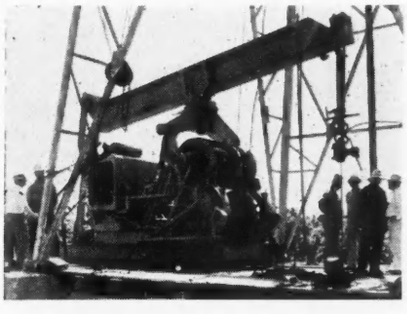
Other innovations claimed are a smoother, quicker-acting and more powerful valve motor that is obtained by a larger molded diaphragm of advanced design; formed impressions in the top plate which provide freer access of air pressure to the diaphragm in starting; and a longer and larger diameter spring that gives greater initial compression, less hysteresis, and more accurate response. All parts are specially treated to resist corrosion.

SERVICING UNIT WITH BEAM ATTACHMENT
All Steel Products Manufacturing Company

A new servicing unit with a beam attachment has been developed by All Steel Products Manufacturing Company. This attachment is not only a well pumping beam, but is also a standard tool drilling beam. The beam is 22 feet long, and heavy enough to pump a 5000-foot well or will drill with standard tools up to approximately 4000 feet.

Although the unit is ruggedly constructed, it is highly portable; in fact, the whole unit when equipped with an All-Steel Model K double drum unit can be handled easily by a large size truck without disassembling any part. The beam may be swung out of the way for bailing or pulling rods and tubing. The unit is equipped with anti-friction bearings all over, except on the beam pivot point where the bearings are bronze.

The unit is driven with a V-belt drive to the pitman crankshaft. A brake on the crankshaft sprocket holds the beam in the proper position when hooking up the polish rod. When the unit is used as a pumper there is a horse head attachment that goes in place of the temper screw used while drilling.



All Steel Unit

WELL SURVEYING UNIT
C. A. Mathey Machine Works

C. A. Mathey Machine Works, Tulsa, Oklahoma, has developed a new type of reel and measuring unit for well surveying that may be installed in turtle-back of coupe or light truck.

Mathey Portable Reel

The unit consists of 3½-horsepower gasoline engine, measure line reel, hydraulic governor, measure meter and wood box when powered by an engine. The box has handles and chains for anchoring in place, and the measure meter and rack are the same as used in measuring wells for shooting. It will fit any size line up to 3/16 inch in diameter. The reel will hold 12,000 feet of measuring line and is controlled with a cam action lever which operates the combination clutch and brake. An emergency brake also has been provided. The force of gravity on the instrument will cause the reel to revolve and drive the pump which has suction and discharge connected to the oil tank.

The unit also may be mounted on pulling units already assembled for field use and is sturdily constructed.

Drawn Fittings

Tube-Turns, Incorporated, Louisville, Kentucky, announces publication and availability of a 48-page, illustrated catalog and price list No. 107 for those interested in piping.

LINESTARTER
Westinghouse Electric & Manufacturing Company

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania, has announced a complete new line of linestarters employing the De-ion principle of arc interruption. Designed for across-the-line starting for single phase and polyphase squirrel cage induction motors and as primary switches for wound rotor induction motors, they are especially applicable where push button control is desired with complete protection to the operator, the motor and the machine.

All parts are accessible from the front, are self insulated and mounted on a steel base. The doors are hinged and swing to a full open. Motor protection is provided by a thermostat disc overload relay. A proper inverse time characteristic prevents shut-downs due to temporary overloads. Also, protection is assured against single phase and locked rotor operation. Heaters for operating the disc are interchangeable and easily accessible. The relay can be arranged for either manual or automatic reset.

The contactor is compact and accessible. The entire assembly can be removed from the cabinet by loosening one screw which clamps the steel base in place against rubber pads. Vertical straight line operation of the contactor prevents accidental closing. Absence of levers and bearings reduces maintenance and makes for trouble free operation. The arc box is a heavy one-piece, non-carbonizing porcelain section with openings to permit inspection of contacts without stopping production. The De-ion arc quencher confines, divides and extinguishes the arc almost instantaneously and without the usual flash and attendant scattering of the flame. This not only gives unusually high arc rupturing ability but also assures long life of the contacts.

Westinghouse Linestarter

This Week with the Industry's EQUIPMENT SUPPLIERS

New Sperry-Sun Branch Office

Sperry-Sun Well Surveying Company, Philadelphia, has opened a new branch office at 316 West Anapamu Street, Santa Barbara, California. The new store will carry in stock H-K and Syfo Clinographs and supplies, as well as give Surwell (Gyroscopic) Service. The store will serve fields on the Coast and north of Los Angeles.

The company's former branch office at 1237 K Street, Bakersfield, has been discontinued. However, to serve immediate needs of customers in the San Joaquin Valley, arrangements have been made for the storing of equipment with A. F. McQuiston, 3314 Chester Avenue, Bakersfield.

The company's main California district office continues to be located at 549 East Bixby Road (3800 block Atlantic Avenue), Long Beach.

New Supply Company For Oklahoma City

LeBus Machine & Supply Corporation has been organized with manufacturing plant in Oklahoma City, by Frank L. LeBus in association with D. H. Rowland and L. J. Bell. The new company is located at 1001 S. E. 29th Street on supply-company row in the heart of the Oklahoma City field, and is equipped to do complete reconstruction work on all classes of oil field equipment.

The company also is developing a complete line of fishing tools for sale and rental, while the unitizing of drawworks also has been begun. New equipment will be developed under the supervision of Frank LeBus, who formerly resided in Longview, Texas, and previous to that in Electra, Texas.

D. H. Rowland is vice president and sales manager of the new company. He is president of Star Manufacturing Company in Oklahoma City. L. J. Bell is secretary and treasurer. He formerly was associated with Brauer Machine & Supply Company in Oklahoma City, and prior to that with American Tank Company.

FRANK LEBUS

Directors Fill Vacancies In Board of Waukesha

Benjamin C. Bugbee, industrialist and engineer, associated with Cahill & Company, consulting engineers of Milwaukee, and Dr. M. A. Hadcock of Waukesha were elected at the last meeting of the board of directors of Waukesha Motor Company to fill the vacancies left by the deaths of H. L. Horning and A. S. Cronk. Dr. Hadcock has been intimately connected with the development of the company since its organization in 1906, and represents substantial investment interests in the corporation.

Benjamin C. Bugbee has had wide experience as an industrialist and engineer. As an engineer for the T. M. E. R. & L. Company he played a substantial part in the building of their power plant and sub-station system throughout the southeastern section of Wisconsin which this company serves. The power plants at Kenosha, Racine, and some of the early ones in Milwaukee were designed and built under his supervision. Later he left this organization to enter the field as a consulting engineer with the firm of Cahill & Company with which he is now associated. He brings to the board of directors a wide experience in modern management as applied to industrial plants. Among the prominent clients of his consulting firm are the Cudahy Brothers Packing Company, Robert S. Johnson Company, and the Rundel Manufacturing Company.

Lincoln Electric Appoints New Denver Agent

The Lincoln Electric Company, Cleveland, Ohio, manufacturers of "Shield Arc" welders, Electrodes and "Linc-Weld" motors, announces the appointment of Intermountain Belting & Packing Company as its agent in Denver, Colorado, covering the State of Colorado and part of Kansas, Nebraska and Wyoming. The salesroom is located at 1414 Wazee Street.

President of Intermountain Belting & Packing Company is J. H. Johnson. M. H. Mickey is vice president, and J. I. Creighton is secretary and treasurer.

These men, assisted by Homer Glan and James Kelley, will provide the territory in and around Denver a complete supply service for every arc welding need. Various model "Shield Arc" welders and "Linc-Weld" motors will be on display, and a stock of "Fleetweld" and other Lincoln electrodes will be maintained along with general arc welding accessories. Consultation service, on any phase of welding, is available without charge to welding users in the territory.

Cutler-Hammer Los Angeles Office Is Moved

The Los Angeles sales office of Cutler-Hammer, Inc., Milwaukee, Wisconsin, manufacturers of electric motor control apparatus, has moved to new quarters at 1331 Santa Fe Avenue, Los Angeles, California. Here it will continue to carry a complete stock of C-H standardized motor control, safety switches and electrical specialties for quick delivery. This office is in charge of W. G. Tapping, who has had wide experience in handling the complete line of Cutler-Hammer control apparatus.

Shaffer Tool to Build Houston Plant

Shaffer Tool Works is planning the construction of a $10,000 to $15,000 manufacturing plant at 3205 Harrisburg Boulevard, Houston, Texas, near the Baash-Ross Tool Company's plant on Clinton Drive. The new plant will be about 50 x 100 feet, on approximately a two-acre tract, and will be of brick and steel construction.

Compressors and Vacuum Pumps

Ingersoll-Rand catalog 7502-E covers the company's "Type 30" line of industrial compressors and vacuum pumps; 28 pages and cover. Compressors single- and two-stage, ¼ to 15 hp., 1.2 to 102 cubic feet per minute, pressures to 1000 pounds, vacuums to within 0.35-inch (Hg.) of barometer. Units mounted on horizontal and vertical tanks are shown; also units unmounted, and mounted on carriages. A copy may be obtained from Ingersoll-Rand, 11 Broadway, New York.

J. H. JOHNSON

Squeaks from the Bull Wheel

Speaking of Al "taking a walk"—Andy has a million signs up saying "Nonox."

As Advised

Judge—Well, Mose, what brings you back into court?

Mose—Ah got a cause dis time, Judge. What would youall do, Judge, effen some one wuz to steal yo' gal?

Judge—Why, I'd cut her company, I believe.

Mose—Well, da's jes' 'zakly whut Ah done, Judge, an' Ah cut him plenty deep.

Rejuvenation

An elderly Hebrew went to a rejuvenating wizard and asked: "Can you make me eighteen years old vunce more?"

"Yes," was the reply, "but it will cost you $10,000."

"Nefer mind vot it costs—I'll take the operation."

Six months later the rejuvenating wizard called for his money.

"You can't collect," said the patient, "I'm under age; and if you say I ain't I'll sue you for fraud."

Hearsay

The Archbishop preached an eloquent sermon at the high mass on the blessings of the married state. Mrs. Murphy met Mrs. Maloney outside the church and said: "That was a grand sermon His Grace preached this mornin'."

"'Twas so," replied Mrs. Maloney. "I wish I knew as little about it as he did."

Close Quarters

"That fellow must live in a very small flat."

"How can you tell?"

"Why, haven't you noticed that his dog wags his tail up and down, instead of sideways?"

What's a Panhandler?

Do you know the difference between a hobo, a tramp and a bum? "Skeets" Simmons, who has known the vagaries of box-car life, gives the following amusing and doubtless veracious definitions.

A hobo travels and works.

A tramp travels and does not work.

A bum neither travels nor works.

This Age of Specialization

We met a gentleman at lunch the other day who told us that the National Biscuit Company has a vice president in charge of fig newtons. We rushed back to our office and called up the National Biscuit Company. To the switchboard girl who answered we said, as calmly as possible, "The vice president in charge of Fig Newtons, please." Without audible surprise, she connected us with a lady who asked, "Can I assist you, please?" We repeated our request for the vice president in charge of Fig Newtons. "Well," she said, "if you wish to speak with the vice president in charge of sales of fig newtons, that's Mr. F. K. Montgomery; but if you want the vice president in charge of ingredients and manufacture of fig newtons, that's Dr. E. T. Oakes. Which one do you want?"

We said we'd think it over, and hung up.—The New Yorker.

Help He Needed

A man was fumbling at his keyhole in the small hours of the morning. A policeman saw the difficulty, and came to his rescue.

"Can I help you to find the keyhole, sir?" he asked.

"Thash all right, old man," said the other cheerily, "you jusht hol' the housh shtill and I can manage."

Had His Price

The two tramps were stretched out on the green grass. Above them was the warm sun, beside them was a babbling brook. It was a quiet, restful, peaceful scene.

"Boy," mused the first tramp contentedly, "right now I wouldn't change places with a guy who owns a million bucks."

"How about five million," asked his companion.

"Not even for five million," drowsed the first tramp.

"Well," persisted his pal, "how about ten million bucks?"

The first tramp sat up.

"That's different," he admitted. "Now you're talking real dough."

Or Pronounce It

"Tommy, what is a synonym?" the teacher asked.

"A synonym," said Tommy, wisely, "is a word you use when you can't spell the other one."

Wouldn't Hang

A youngster, fresh from school, obtained a job in a butcher shop. When it came to closing time, his employer told the lad that if he hung up the meat and locked the shop, he could go home.

The butcher returned to the shop next morning and found the lad still on the premises. He asked the reason for this.

"Oh," replied the lad, "I managed to hang up all the meat right, until it came to the hamburger."

Exactly

Lawyer (impatiently): "Don't you think you're straining a point in your explanations?"

"Possibly, but you often have to strain things to make them clear."

Balanced

The two had just been introduced, and it was up to him to make the next remark.

He: "And what a very plain person that gentleman near the piano is, Mrs. Blackwelder."

She: "Is he? That's Mr. Blackwelder."

He: "How true it is that the plainest men always get the prettiest wives."

OIL COMPANY OFFICE and FIELD FORMS

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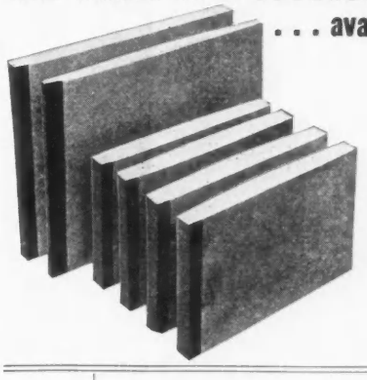

After carefully reviewing the forms of a number of oil companies, The Gulf Publishing Company has made up six standard forms listed below and has produced these in such quantities as to enable oil companies to secure them at substantial savings.

These forms are printed on 16 lb. Bond Paper. They are substantially bound. Duplicates are printed on colored bond and perforated, pencil carbon included with each book.

Forms will be shipped prepaid at prices shown below. Samples will be sent upon request.

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Form 103	WELL LOG AND RELATED DATA (8½x11, Printed both sides—100 to book)	1.50	6.50	10.50
Form 104	PIPE TALLY SHEET (In duplicate—100 sets to the book)	1.50	6.50	10.50
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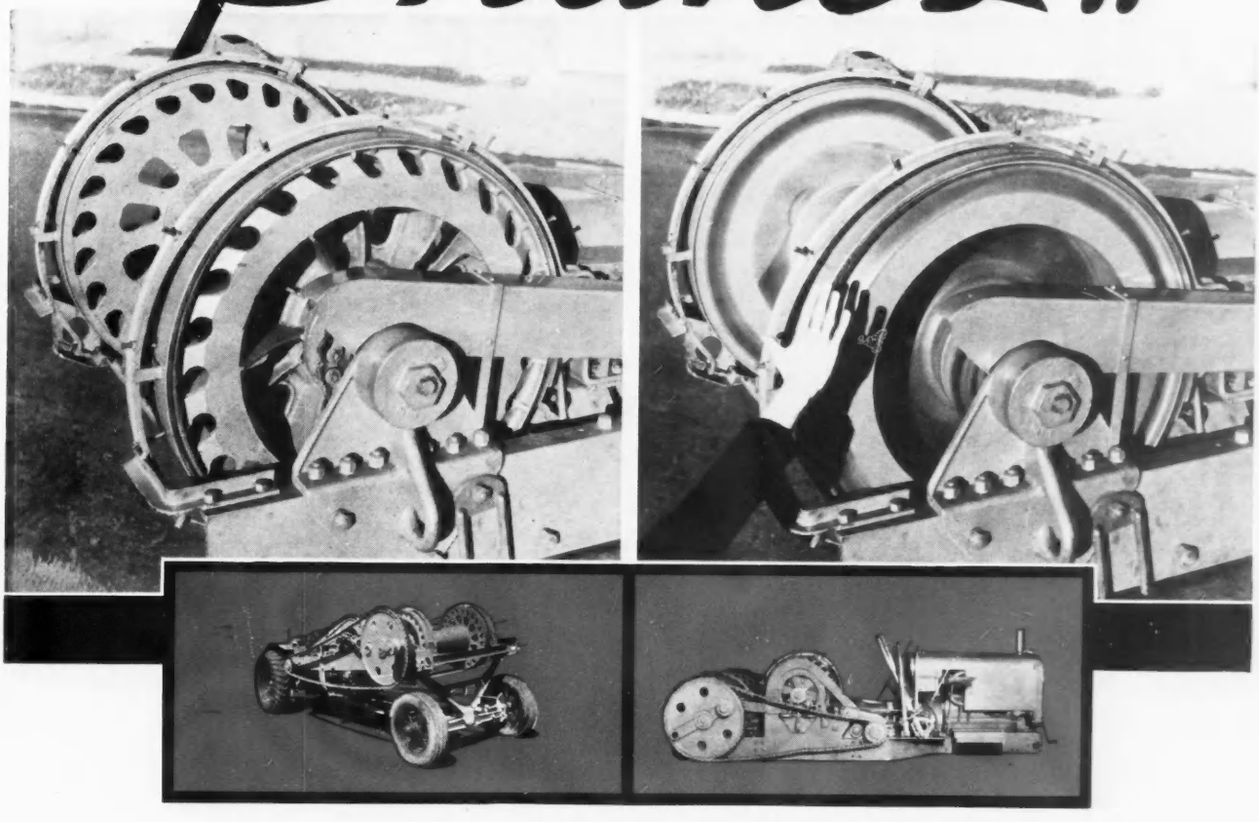

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